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Parapros: '90s Work, '60s Pay
page 10

Four NEA Members Up for 1990 Teacher of the Year
page 18

IS SCIENCE IN HER FUTURE?

Some Hopeful Signs
See page 4

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Joe Glick

PRESIDENT'S VIEWPOINT

The Peace Dividend: Meeting America's Needs

Opportunity. Motive. Means. For TV detective Columbo, they're the keys to solving murder cases. Today we have all three right in our hands—not to solve a mystery, but to transform our nation and our world.

The end of the Cold War creates the opportunity. The terms of global competition have shifted—national security can no longer be defined as military superiority over the Soviets.

The motive—to create a world in which children no longer suffer, a world that puts human needs above the arms race—cannot be in doubt.

The means can be ours as well. Think of the possibilities. The money spent on one nuclear submarine would fully fund the education of 16 million children. The cost of one modern tank would pay for 1,000 classrooms.

The "peace dividend" potential is enormous. Former Defense Secretary Robert McNamara is one of a series of military experts who told Congress that the $300 billion military budget could—and should—be cut in half over the next decade.

Even the much more modest cuts proposed by the Bush Administration add up. The director of the Congressional Budget Office estimates that the White House proposal to cut the Pentagon budget by 2 percent, after inflation, in each of the next five fiscal years could generate up to $4 billion next year and about $30 billion in 1995.

America's military budget has been consuming half our federal tax dollars (not counting social security payments). That's money that hasn't been available for education, for social programs, for rebuilding our industrial base, for deficit reduction, for protecting our environment, or for ending the tragedy of drug abuse.

As Nobel prize-winning economist Paul Samuelson puts it, "In any well-run society, it's still a question of guns or butter."

While the United States and the Soviet Union spent the past four decades battling for military supremacy, Japan—which spends just 1 percent of its economic output on defense—became the world's economic powerhouse.

NEA President
Keith Geiger

The profound and unprecedented changes in international politics—and economics—present new challenges for America. In the decade and century ahead, national security will depend more on our economic and social vitality than on amassing ever-larger stockpiles of nuclear arms.

A well-educated populace is the key to meeting these challenges. Universally excellent schools are the foundation of America's future.

It's time our government stopped pretending we can significantly improve schools without additional resources. *Shortchanging Education*, a new study by the Economic Policy Institute (EPI), should put to rest the oft-repeated myth that America spends more on its schools than any other industrialized nation.

The EPI economists analyzed education spending in 16 industrial nations. U.S. spending as a percentage of national income puts us in a three-way tie for second place when all education spending—public and private, preschool through university—is included. Sweden spends relatively more; Canada and the Netherlands spend equivalent amounts.

But when higher education is excluded, America ranks 12th or 14th—depending on the precise measure of spending used. Japan, Germany, and at least nine other nations spend more on K-12 schools than does America. And when the analysis is limited to public spending, preschool through university, we're in 14th place.

Additional funding alone won't enable us to undertake the fundamental restructuring that America's schools need. But, as the EPI economists conclude, "as in every other service, we may 'get what we pay for.'"

The end of the Cold War frees America to pay more to meet our nation's economic, social, and human needs. We have the opportunity and the motive. The means, too, are at hand.

Inside

9 Meet a Teacher On Top of the World
About 25 miles inside the Arctic Circle, teacher Darlene Heckler drives snowmobiles, flies planes, and teaches her small-town kids it's a big world out there.

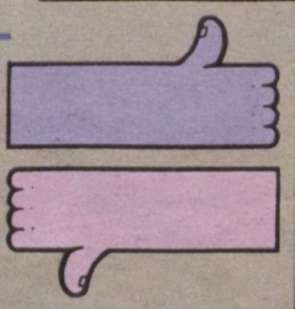
14 School Drama: How Times Haven't Changed
Dust off your old high school playbill. Maybe *You Can't Take It with You*, but you can sure use it again. Today's popular school plays are the same as yesterday's.

21 Locals Open Up New Worlds of Learning
To turn on minority students to math and science careers, East Cleveland, Ohio, educators developed a hands-on curriculum. Bristol, R.I., teachers have ways to reinvigorate their teaching.

23 Ask Not What Your Country Can Do for You...
Classrooms are reaching out to embrace community service programs—making volunteerism part of the curriculum and teaching students some valuable, real-life lessons.

25 Historical Truths— Or Box Office Lies?
How can we—or our students—tell the difference? Today's movies increasingly blur the line between fact and fantasy. Often, in movies as in wars, "truth is the first casualty."

31 Have Remedial Classes Outlived Their Usefulness?
A San Diego, Calif., teacher gives remedial classes a failing grade, while an Orangeburg, S.C., colleague says they're essential to providing equal opportunity.



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NATIONAL

Census 1990

Count Us In!

No people, no funding. Simple as that—but many students and their families don't know just how much they can lose if they miss being counted in the 1990 Census. Luckily, you're there to tell them.

How does the Census work?
Most Americans will receive a Census form in late March (Census Day is April 1)—but several million more likely won't. They're the people who've moved, or don't have a permanent address, or haven't been counted before. And some people will return incomplete forms.

To make sure everyone's counted and all information is correct, the Census Bureau will send out more than 200,000 people to comb neighborhoods for unlisted residents, help people fill out forms, and make follow-up visits. Another 100,000 are staffing offices to handle paperwork and answer questions over the phone. Most of these workers will be hired this month.

Why should I return my form? What difference will it make?
A big one: If you don't count in the Census, you won't count in public policy.

The new population figures will be used to reapportion the 435 seats in the House of Representatives and set state legislative district boundaries.

In addition, Census information is used to determine allocations of federal, state, American Indian tribal, Alaska Native village, and local government monies for a variety of programs. That means funding for schools, health clinics, job training, community centers, and other services may depend on Census population counts.

Beyond money, Census data is used to decide where to place roads, hospitals, schools, child care centers, and other services.

What is the 'undercount'?
In 1980, some 2.2 million people—1 percent of the population—weren't counted in the Census. And among minorities, 6 percent didn't show up on the rolls.

An undercount of any part of the population hurts, because the undercounted group won't get as much public money—meaning public services and facilities—as it should.

This year, counting minorities, the homeless, migrant workers, and people in poor urban and rural areas will be critically important.

Is Census information confidential?
Strictly. By law, no one—neither a Census taker nor any other Census Bureau employee—can reveal information about any individual or family to anyone outside the Census Bureau.

Are teaching materials on the Census available?
Yes. Last fall, a kit called the Census Education Project was mailed to each of the nation's school principals and district superintendents. The kit contains lesson plans, posters, and suggested activities. Check with your principal.

Why is it so important that students understand the Census?
Kids fill out the forms, that's why. Association member Bernard Anderson of Las Vegas served on the task force that developed the Census Education Project. "Statistics show that children aged 11 to 16 often complete the forms," Anderson notes. "Their parents ask them to."

What's NEA doing to help make the Census more complete?
NEA is part of a coalition working closely with the U.S. Census Bureau. And NEA Government Relations is working with the Joint Center for Political Studies to find out which areas are most likely to be undercounted.

Also, NEA members have been involved in developing education resource kits as well as in the Census Education Project.

—Anita Merina

Census Hotlines

To help people fill out Census forms and answer questions, the Census Bureau has set up eight toll-free phone numbers. These will be in operation daily from March 23 through April 15, 9 a.m. to 9 p.m.

English 800-999-1900
Spanish 800-CUENTAN (283-6826)
Korean 800-444-6205
Cambodian 800-289-1960
Chinese 800-365-2101
Vietnamese 800-937-1953
Laotian 800-888-3208
Thai 800-288-1984

News Beat

■ **Relative Spending** — Thirteen industrial nations spend more on K-12 education in relation to the size of their economies than the U.S. does. Statistics released by the Washington, D.C.-based Economic Policy Institute counter Bush Administration claims that the U.S. spends more on education than other countries. In fact, nations spending more include Japan, Sweden, Austria, Switzerland, Canada, West Germany, the United Kingdom, and Italy. Unlike White House statisticians, EPI counted only K-12 expenditures.

■ **Forget the Frills** — Just for the essentials, it'll cost parents more than $150,000 to raise a child born in 1988 to age 18. According to a new study by Zero Population Growth, families can add $160,000 for four years of private college, $77,000 if students want to attend an in-state public institution.

■ **Lead Poisoning** — New medical reports say children exposed to even low levels of lead will likely have learning and behavioral problems all their lives. Follow-up studies of children exposed to lead found persistent problems, including reading disabilities, poor hand-eye coordination, a high dropout rate—even lower IQ. Federal health officials estimate that 3 to 4 million American children have potentially damaging levels of lead in their blood.

■ **College Cuts** — The American Council on Education reports a dramatic decrease in the percentage of low- and middle-income Blacks and Hispanics going to college. Between 1976 and 1988, the college participation rate for low-income Black high school graduates between 18 and 24 fell from 40 to 30 percent. For low-income Hispanic high school graduates, the proportion dropped from 50 to 35 percent. Low-income white high school graduates made slight gains.

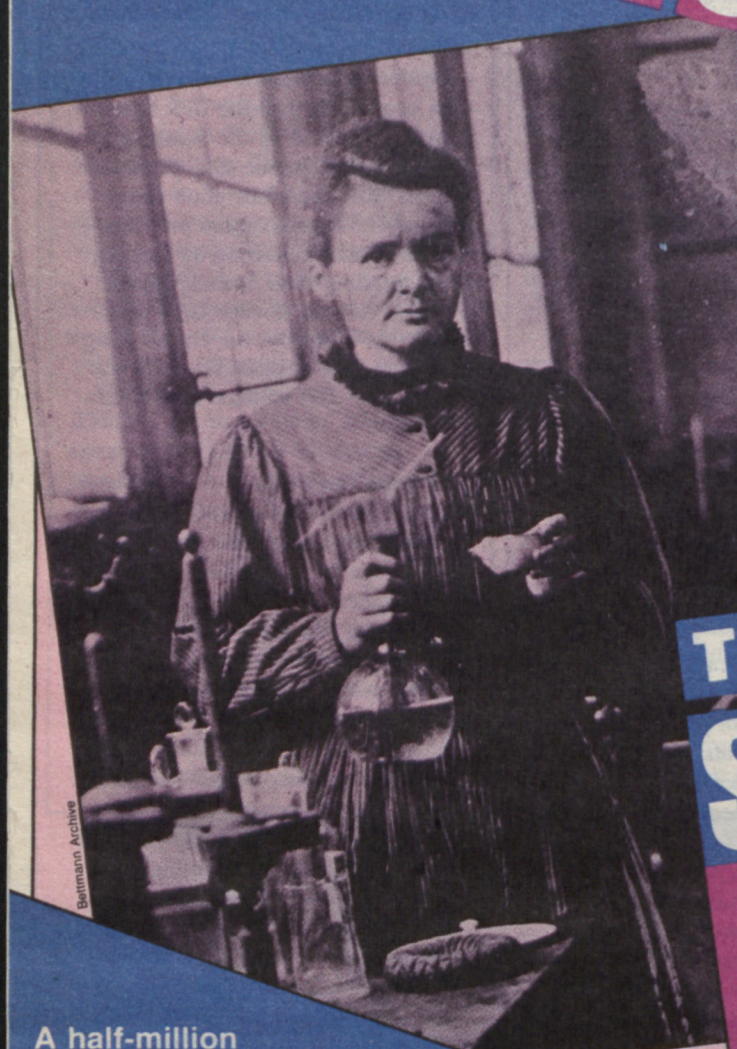
WELL PUT!

"There are too many mandates, too much paperwork, and no general understanding among legislators or government agencies that children differ in shape, hopes, and abilities."

—Joan Raymond, Superintendent, Houston (Texas) Independent School District

COVER STORY

FROM MARIE CURIE... TO SALLY RIDE... TO...



Bettmann Archive

NASA

A half-million science and engineering jobs will open up in the next 10 years. The number of women who will fill those positions depends on many factors, including the educators who are teaching girls today.

If you've ever wondered why women in science and technology fields are a rare breed, consider the following:

► In 1968, an ambitious plant biologist at Yale University was stunned to hear the graduate adviser announce, "You are being trained to become research associates (not principal investigators)—and to become the wives of the men you are now going to school with."

► A physical chemist, now past 50, reflects on her days at a Midwestern chemical research foundation in the 1960s: "The place was openly sexist, and I was a permanent oddity. The men ate in a dining room that permitted only men....Once a chemist from Scotland came especially to see me. The others at the foundation wanted to have lunch with him, too. They still wouldn't let me into the dining room. My colleagues had to run around and find an outside place to eat so I could join them."

► When she began to consider motherhood, the same chemist was told she'd be fired if she became pregnant. "So I got pregnant, and they never knew it. I just wore a lab coat one size larger. Who ever really looked at me? I came back two days after the baby was born, and I never told anybody there that I had a child."

Excerpts from *Women in Science: Portraits from a World in Transition* by Vivian Gornick (Simon and Schuster, 1990).

This kind of discrimination is now illegal—but it will take more than laws to increase the numbers of women professionals in science and technology.

One positive step was taken recently in the nation's capital. The report of the Task Force on Women, Minorities, and the Handicapped in Science and Technology, commissioned by the White House and Congress (see box), recommended dramatically increasing the role of women in science and engineering over the next 10 years.

According to the task force, some 500,000 professional science and engineering positions could go unfilled due to retirements and declining interest in these careers. At the same time, white women comprise only 10 percent of all employed scientists and engineers, although according to the task force they make up 43 percent of the U.S. population. (The participation rate among minorities is even lower.)

The only hope for keeping national research and development capabilities up to strength, says the task force, lies in raising the proportion of women and minorities who enter these fields. That requires *immediate* action by key sectors of the population—in particular, teachers.

Notes Cinda Sue Davis, director of the University of Michigan's Summerscience Program, "Too many female students view science as not a 'cool' or feminine line of work. But when they get a chance to do challenging, hands-on science and technical work, they become eager, enthusiastic learners."

To change attitudes about what's "cool" professionally, teachers will need to make some subtle changes in their behavior, say most academicians who've studied ways to encourage

Federal Investment in Training Scientists, Engineers

	Funding for minorities and women*	Funding For everyone*
Precollege, total	**$11.3**	**$138.8**
Curriculum	0.2	21.8
Teacher training	—	75.0
Students	3.4	14.5
General	7.7	27.5
High school to undergraduate total	**$1.3**	**$1.1**
Academic programs	0.3	0.1
Career awareness	1.0	1.0
Undergraduate, total	**$43.8**	**$142.3**
Curriculum	1.0	16.1
Faculty	0.7	10.0
Student support	30.0	32.0
General	12.1	84.2
Graduate, total	**$15.2**	**$287.4**
Student support	15.2	143.4
General	—	144.0
Research, total	**$137.5**	**8,535.5**
Postdoctoral	3.7	390.9
Faculty	56.1	6,723.1
Institutional development	36.1	311.5
General	41.6	1,110.0
Total all categories	**$209.1**	**$9,106.1**

* Millions of dollars

Note: Shows estimated amounts for the departments of Agriculture, Defense, Energy, and Interior; and for the Environmental Protection Agency, NASA, National Institutes of Health, and National Science Foundation. Figures do not include all education efforts underway at these or other federal agencies.

Source: Task Force on Women, Minorities and the Handicapped in Science and Technology.

CO

Andrew Rakland

McCall, Idaho, teacher Barbara Morgan believes that girls' interest in science will grow if they're exposed to science in the early grades.

women to achieve in science.

Psychologist Jacqueline Eccles says that in the typical classroom she's observed, teachers have more interactions—positive and negative—with boys than with girls. "The girls fit in the middle. They neither get yelled at very much nor get very much other attention. This is especially true—and especially detrimental—for very bright girls."

Eccles also finds fault with instruction that promotes competition rather than cooperation. "Teachers should avoid public drills and other kinds of instruction that pit kids against each other. Instead, they should concentrate on teamwork and hands-on learning. Otherwise, the instruction deadens the interest of everyone who's not at the top of the class."

"One key is reaching girls before they become teenagers—before sex roles are completely formed," says Jo Baker, associate vice president of the Georgia Institute of Technology. Georgia Tech runs a half-day Futurescape program to bring junior high school girls into contact with women who might become their role models. Doctors, engineers, architects, scientists, technologists—these women have succeeded in fields that require solid grounding in math and science.

"If seeds of confidence are sown early, girls can tolerate the competition with male peers they'll experience later on," Baker believes.

Davis' Summerscience program at the University of Michigan (funded last year by a $48,000 grant from the National Science Foundation) brings some 45 eighth and ninth grade girls to the campus for two weeks of hands-on work in chemistry, engineering, or natural resources.

The students experiment with thin-layer chromatography, solder circuits to make digital clocks, design watershed models, and analyze water samples. Each student has a computer project: creating a basic analog-to-digital converter.

Other parts of the program are less intensive. The students tour a science and technology museum. In the evening, they meet with women scientists, mathematicians, and engineers. When they get back to high school, the students give oral presentations about their experiences and install their analog-to-digital converters.

"We expose them to the sort of experiments we require of our college freshmen," says Summerscience Director Davis. "Last year I heard over and over again how much fun it was to be with a group of girls and not be forced to play down their intelligence."

Davis notes that an important part of the role teachers can play is in working with parents. "I'd say parental encouragement is the single most important ingredient in directing young girls to consider a career in science or technology," she says.

McCall (Idaho) Elementary School third grade teacher Barbara Morgan says her doctor father encouraged her to enjoy science. "We had a telescope and a chemistry set along with our toys. I'm following his example in my classroom today—I try and provide the sort of fun and imaginative hands-on experiences that will get my students to appreciate science."

Since being named the Teacher in Space designee five years ago, Morgan has been in a unique position to bring the world of astronauts and NASA into the classroom as well. "Space travel becomes an exciting context for the study of all subjects. We compare the early settlers' move West to the voyage to Mars. We're having NASA send us tomato seeds that the latest shuttle flight retrieved from a space vehicle launched in 1984, and we plan to do scientific experiments with them."

NASA seems to be just as excited about Morgan as she is about the possibilities of science in her classroom. Not only does she use NASA materials in class, says a NASA spokesperson, but she brings the space agency a valuable classroom perspective.

Still, Morgan believes, even without the NASA training she draws on, all teachers have enough exposure in their daily lives to exciting real-world science and technology issues to bring these to life for their students.

Reseda, Calif., teacher Barbara Hopper did just that for Stephanie Bird—today a professor and neuroscience researcher at the Massachusetts Institute of Technology. At Reseda's Cleveland High School, says Bird, Hopper "encouraged me to see all the career possibilities that exist for a student who pursues science."

In Hopper's high school honors biology class, science came to life for Bird as she peered through a microscope at sea urchin eggs, analyzed radioactive isotopes, and studied the crossbreeding of fruit flies.

"Ever since," says Bird, "it's been fascinating—although not always easy. If girls can get the encouragement from their teachers that I got from some of mine, they'll have the confidence to survive the difficult times."

—Vicky Lytle

Task Force Cites Teacher's Special Role

The Task Force on Women, Minorities, and the Handicapped in Science and Technology presented its final report to the President and Congress in December. The report recommends that the nation double the number of women receiving bachelors' degrees in science and engineering over the next 10 years.

It also suggests that during the same period the U.S. triple the number of Blacks receiving bachelors degrees in science and increase the number of Hispanic graduates sevenfold.

The task force has these specific recommendations for teachers:

► Emphasize science and mathematics—for both their educational values and their career potential—as the best way "up" for students from disadvantaged backgrounds.

► Build partnerships with parents to help students set high career goals and complete rigorous math and science coursework.

► Integrate computer technology into the classroom so that every student is proficient in the use of this tool.

► Forge effective ties with leaders in local industries, universities, and with federally employed scientists and engineers. Welcome visitors and volunteers into the classroom to serve as teachers and assistants, mentors, and role models.

► Continue working to increase your professionalism in mathematics and science teaching. Many options are available: teacher workshops, internships, retraining, participation in research projects, and attendance at professional meetings.

► Make science hands-on. Make sure all students *do* science as well as read about it.

—V. L.

HUMAN RIGHTS

Joseph Robinette

Nancy Slone loves teaching homebound students, but fears for her safety as she travels perilous mountain roads. She's waiting for reassignment.

Law Protects Broad Range Of Disabilities

Most NEA members know it's against federal law to discriminate against people with physical handicaps. But did you know that those laws apply to people with other disabilities as well?

For the past five years Nancy Slone has known she has acrophobia, a fear of heights. Her fear is so intense that doctors say she could faint while driving over treacherous mountain roads.

Unfortunately, that's something Slone has to do every day. A teacher of homebound students in Pike County, Ky., Slone was assigned this year to a route that requires her not only to travel more than 100 miles a day but to cross three steep mountains.

Slone's 37 years' teaching experience include 13 years of work with homebound students. "I love my job and working with kids one on one," she explains. "But going over those mountains terrifies me."

When Slone's local, the Pike County Education Association, referred her to the Kentucky Education Association (KEA) for help, she learned that all public school employees with disabilities—physical or mental—are protected by Section 504 of the federal 1973 Rehabilitation Act.

This protection covers not only those easily identified as handicapped—a blind person or someone confined to a wheelchair—but also people with documented psychological conditions, from phobias to depression. It requires school districts to modify working conditions to protect an employee's health.

The court has given the Pike County school district 30 days to get a teacher willing to take Slone's place so she can be reassigned. So far, no one has come forward. Although she's waiting for a resolution of her court case, Slone affirms, "KEA has backed me from day one. They've been really good."

Another Kentucky member, Union County school guidance counselor Janet Hodge, has medical evidence that she suffers from claustrophobia, another disability covered by the 1973 Rehabilitation Act. When she was reassigned to a 77-square-foot windowless office, Hodge requested a work area that wouldn't exacerbate her disability. After the school refused her request, she, too, was referred to KEA for legal recourse.

KEA quickly filed a disability discrimination case in federal court. Less than two months after the problem first arose, the court ruled that Hodge should be given a larger room with windows.

KEA, like all NEA state affiliates, receives financial assistance for member employment discrimination cases through the NEA's DuShane Legal Defense Fund.

Members who've taken extended sick leave face disability discrimination if their districts try to block their return to the classroom. This recently happened to a tenured teacher in California. In 1989 the court ruled in her favor, establishing a precedent that means California Teachers Association members who've been on extended sick leave won't have to go to court to keep their jobs.

The lesson is clear: If you have a medically documented disability—psychological or physical—you may be protected by federal law, and possibly by state laws.

For further information on disability/handicap discrimination, contact NEA Human and Civil Rights. HCR provides resources that include a poster listing protections provided by federal and state laws.

—Melissa Etlin
NEA Human and Civil Rights

A New Law

Section 504 of the 1973 Rehabilitation Act prohibits discrimination against disabled persons by recipients of federal funds, including almost all public schools.

Now, under the proposed new Americans with Disabilities Act (ADA), no school would be able to discriminate against disabled people. The new law would prohibit discrimination in—

- employment (including the private sector)
- all public services
- public accommodations
- transportation
- telecommunications.

ADA also requires that, starting 30 months after its passage, new schools ensure access by the disabled.

WASHINGTON WATCH

Unwrapping the Package

President Bush's budget proposal for Fiscal Year 1991 features a revised format, and one innovation is a personal introduction by the Office of Management and Budget Director Richard Darman. In it, Darman characterizes the federal budget as the "Ultimate Cookie Monster" and the rising costs of health care and obligations to clean up federal facilities as "hidden Pac-Men."

Here, in brief, is Darman's scenario: the Cookie Monster of the Federal Budget and the hidden Pac-Men of the Unfunded Liabilities will be vanquished by the He-Man of the Oval Office and Inspector Gadget of OMB—unless the evil Teenage Mutant Ninja Turtles of Congress interfere.

Darman's predecessor, David Stockman, gave us "The Triumph of Politics." Now Darman gives us the Politics of Looney Tunes.

Some of the looniest caricatures show up in the Administration's gutsy but doomed attempt to make a virtue of cuts in education programs:

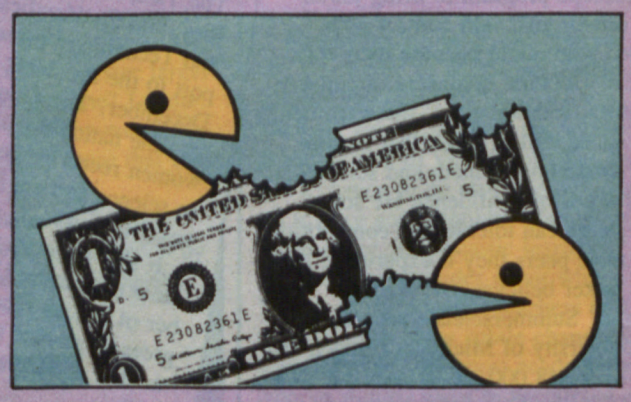
► *"Targeting resources to those who need it mos"t* is the latest euphemism for reducing eligibility for programs. In Head Start, for example, the Administration claims its proposals could serve 70 percent of the targeted population. And so they could—after excluding the eligible three- and five-year-olds. The proposed level is really enough to serve just one out of every four eligible children.

► *"Increasing the number of students served"* by reducing the amount provided per pupil. The Department of Education claims federally funded bilingual education programs will reach 41,000 more students than in FY90—but they'll do so at about $6 less per pupil (after inflation, that's about $19 less per pupil).

► *Using a rose-colored (but opaque) eyeshade* to develop economic projections. A $750 million reduction in Guaranteed Student Loans is justified by projecting 8 percent interest rates instead of a more realistic 9 or 10 percent.

When the smoke is cleared and the mirrors are removed, one finds that the "largest federal education budget ever" is really $2.3 billion less in constant dollars than the one before. That transformation reveals the prominent role of one more cartoon character: Mandrake the Magician.

—Michael Pons, NEA Government Relations



Local Look

TENNESSEE

Since a good showing of members can influence the outcome of a bargaining session, the Knox County Educators Association has devised a way of luring more members to the table.

KCEA designated a BARB (Building Association Representative for Bargaining) for each of the 92 schools in the district. While Association reps are busy with other responsibilities, the BARBs take the time to become specialists on bargaining issues and try to raise the interest of all members in bargaining progress. KCEA distributes the *Barbed Wire*, which gives detailed explanations of bargaining items.

Since the BARBs came on board, the number of teachers attending each bargaining session has increased from a handful to more than 80.

ALASKA

Starting next year, many beginning teachers in Anchorage will have an experienced teacher-partner to provide professional advice and support.

The Anchorage Education Association will use an NEA Urban Grant to train experienced teachers in peer coaching techniques and new teachers in cooperative learning, classroom management, curriculum reforms, and instructional strategies.

The 2,500-teacher district expects to hire some 200 new teachers next year, because of a growing student population, increased state spending, and new early-retirement benefits.

Experienced teachers can volunteer for the program, says AEA President Pam McCarl. Although they won't receive a salary increase for their services, hopefully they will get release time from their classrooms.

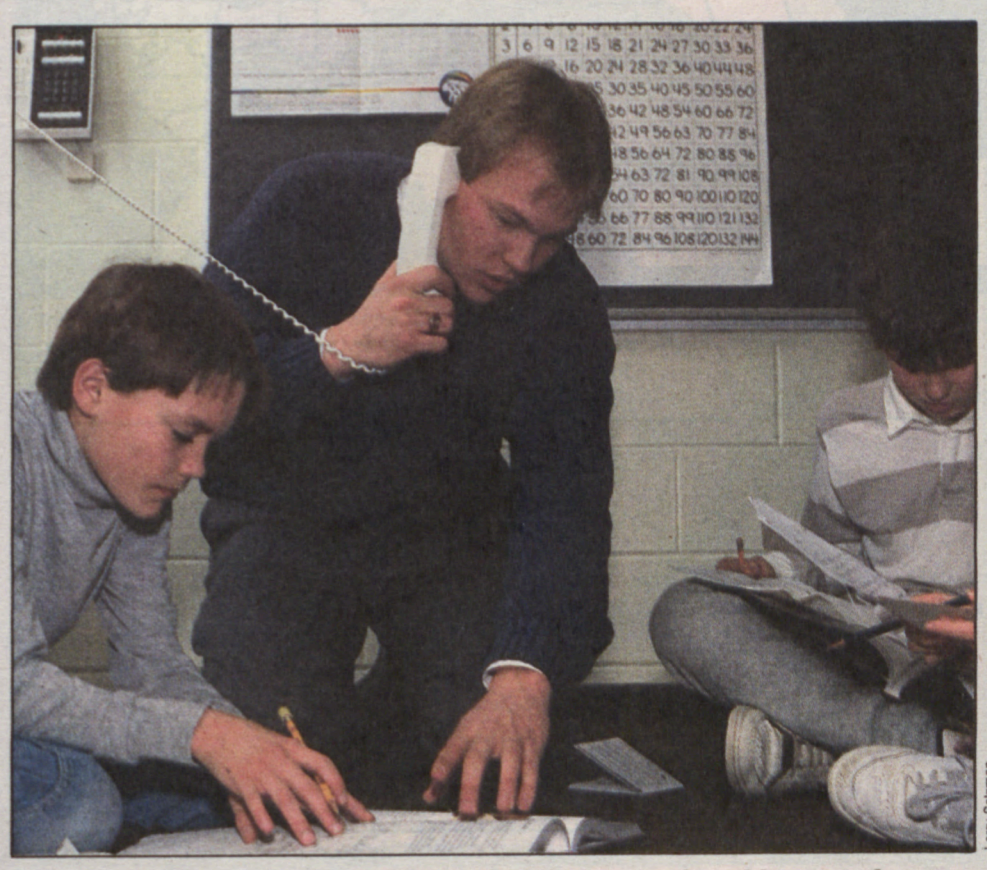
KANSAS

Persistence and politics have paid off in Topeka. After 16 years the members of NEA-Topeka have their salary schedule back.

The three-year contract NEA-Topeka negotiated recently reinstates salary tracks based on education and experience and adds new ones for teachers with designated numbers of credits beyond a degree.

What caused the change of heart? Says NEA-Topeka President Martha Thomas: "Political action helped us change the makeup of the board. Then we persuaded board members not to use their longtime negotiator—an outside attorney-but to have district staff do the job themselves. That made the difference."

IN ROCHESTER, MINNESOTA



Larry Salzman

Rochester, Minn., fifth grade teacher Andy Ollenburg is pleased he can make an important phone call without waiting in line.

Teachers Now Can Phone Home

No more time wasted waiting in line for the office telephone. No more lag time before a parent learns about a crisis. No more student messengers loping halfway around the building carrying garbled messages between teachers.

In other words, no more "playing telephone." The real thing has arrived in Rochester, Minn., classrooms.

The Rochester Education Association introduced the topic of classroom phones at the bargaining table a few years ago. "The district responded to the need we expressed there," says REA President Tom Metzroth, by agreeing to try installing phones in every classroom in two of the district's elementary schools—Folwell and Pinewood.

Reaction at the schools has been positive. "I love my telephone," says Pinewood fifth grade teacher Andy Ollenburg. "I communicate better with parents than I have in the past. I can call when an issue is fresh in my mind, my conversation can be private, and the materials I need are right in front of me."

Despite some teachers' initial fears, Ollenburg says he doesn't find the phones disruptive. "The phone rings in the office, not actually in my classroom," he explains. "So if I'm in the middle of class, I'm not interrupted unless there's an emergency."

Beyond enjoying easier contact with parents and community members, teachers use the phones to talk with other teachers in their buildings.

Students seem to like the classroom phones, too. Teachers allow them to make quick calls home when necessary. And one class used the phone to cheer a sick classmate.

Building on success, the district installed phones in three more schools this year. "Barring the unforeseen," Metzroth says, "I'm confident that phones will be installed in every school in the district in the next few years."

OVERSEAS

Members of the Education Association of Panama have a tough new assignment: helping students handle their feelings about the recent U.S. military action there.

Many members are using classroom exercises as an outlet. "At my school," says Brian McGee, a fifth grade teacher and Association president, "We're having fifth and sixth graders write accounts and draw pictures of their experiences during the invasion/liberation."

"We plan to publish the students' work in a booklet and send copies to President Bush and the local U.S. generals, as well as providing one copy for each student," adds McGee.

At another area school, students are expressing themselves in artwork. "The idea is to allow the children to express their emotions," says McGee. "Some of these emotions run quite deep. These children saw the bullets, they heard the gun battles. They hid in their own bathrooms. They want the opportunity to speak."

The educators are dealing with emotions of their own. During the first night of fighting, an Association member was killed in a crossfire.

NEW JERSEY

Jersey City teachers are part of the solution. That's the message citizens have been getting from ads in their newspapers and on billboards, buses, and cable TV in recent months. In print or on video, the ads present members of the Jersey City Education Association telling what they put into teaching—and what they get out of it.

Meet Renee Thomas, says one ad. *Born and raised in Jersey City, she's a graduate of our public schools. She's also a veteran fourth grade teacher at P.S. 40.* A quotation from Thomas describes her students and an important part of her role: "*someone who lets them know they have a future.*"

After years of suffering the problems common in many urban districts, the Jersey City schools are taking hold of their own future, and JCEA members are aware they have an important part to play.

Last month the partnership went public at a press conference in the Ferris High School auditorium. Jersey City's state-appointed superintendent, Elena Scambio, stood beside JCEA President Lou Scialli, NJEA President Betty Kraemer, and NEA President Keith Geiger. As an experienced and committed urban educator, Scambio had stood in the same spot three years before, testifying in the first public hearing of NJEA's Urban Challenge program.

STATE SIDE

SOUTHEAST

The Georgia Association of Educators has won, on procedural grounds, round one in its battle to invalidate what it believes is a subjective and arbitrary Teacher Performance Assessment Instrument (TPAI). The victory was based on the State Department of Education's failure to make its rules available for public comment.

The legal win means that Lee Ann Kitchens, a member of the Meriwether Association of Educators, will get her teaching certificate back. GAE filed a lawsuit on Kitchens' behalf in 1988 when she failed to pass the TPAI. Officials who rated her classroom performance said she lacked "enthusiasm," but couldn't tell her specifically what she'd done wrong.

GAE has a motion pending before the State Superior Court to restore the certificates of some 170 other teachers in the same fix.

WEST

Faculty collaboration means student achievement. That's how the Arizona Education Association read the evidence. So last year, AEA started a grant program called LIFT (Learning Improvement through Faculty Teams) for AEA members who design teacher collaboration projects at their schools.

First-year winners were the Keeling Elementary school in the Amphitheater district, near Tucson, and Chaparral High School, in Scottsdale, near Phoenix. The Keeling teachers restructured half their classrooms, grouping students and assigning teachers on the basis of students' learning tasks. At Chaparral, a team of science teachers worked up video lessons for use by students who miss school.

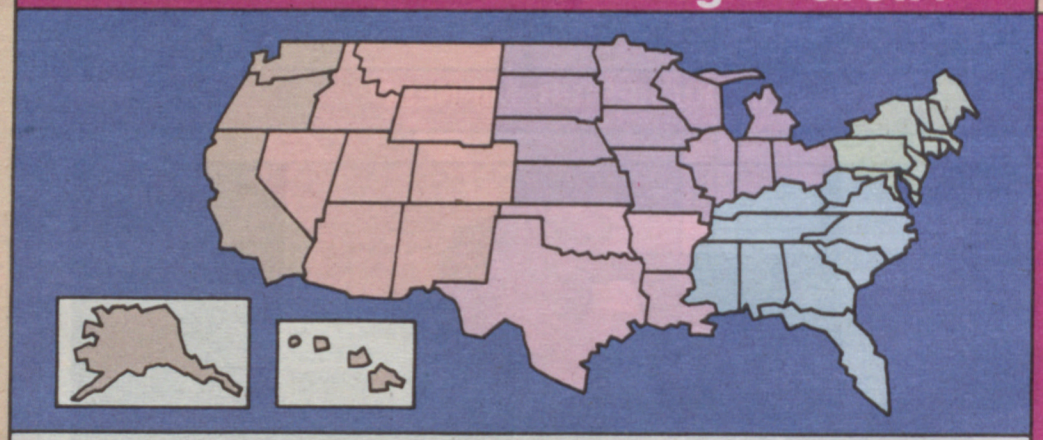
MID-ATLANTIC

The West Virginia Education Association used the power of its numbers recently to score a major victory.

It began when the governor and the executive director of the Public Employee Insurance Agency asked the state legislature to require public employees to pay 1.5 percent of the premiums for their insurance benefits. Because public employees had agreed to the benefits in lieu of pay raises, WVEA leaders noted, assessing the premium would, in effect, mean cutting pay.

Over 5,500 WVEA members testified against the requirement and lobbied their legislators. Lacking legislative support, the governor withdrew his recommendation.

The '80s: How Did Your Region Grow?



Region	State	Change in personal income, 1979-89	Change in employment, 1979-89	Unemployment rate, November 1989
WEST	Alaska	112.01%	30.54%	6.0%
	California	130.51	27.79	4.9
	Hawaii	117.90	24.11	2.8
	Oregon	85.40	12.50	5.2
	Washington	108.62	27.26	5.5
MOUNTAIN	Arizona	152.49%	45.41%	4.4%
	Colorado	112.61	18.23	4.8
	Idaho	86.21	6.21	4.4
	Montana	67.63	−0.70	6.0
	Nevada	150.41	47.14	4.8
	New Mexico	107.26	19.52	5.8
	Utah	107.68	23.91	3.5
	Wyoming	46.25	−5.47	5.8
SOUTHWEST	Arkansas	102.22%	17.62%	6.1%
	Louisiana	78.92	−0.13	7.2
	Oklahoma	81.82	4.69	4.6
	Texas	111.64	20.51	6.9
MIDWEST	Illinois	87.89%	5.47%	6.3%
	Indiana	89.01	9.75	4.8
	Iowa	70.33	4.95	4.1
	Kansas	88.45	10.98	3.9
	Michigan	81.11	6.27	6.9
	Minnesota	106.36	17.03	3.5
	Missouri	99.54	12.63	5.3
	Nebraska	80.42	12.36	2.9
	North Dakota	71.28	6.15	4.1
	Ohio	84.48	6.40	5.9
	South Dakota	78.38	10.37	3.9
	Wisconsin	90.17	11.99	4.1
SOUTHEAST	Alabama	103.93%	15.49%	6.3%
	Florida	166.74	54.84	5.6
	Georgia	149.42	38.30	5.7
	Kentucky	89.67	11.81	5.2
	Mississippi	94.11	8.71	6.9
	North Carolina	135.61	27.01	2.8
	South Carolina	127.66	26.79	4.5
	Tennessee	114.70	17.11	4.5
	Virginia	150.90	36.50	4.1
	West Virginia	67.41	−6.68	8.1
NORTHEAST	Connecticut	136.00%	21.03%	3.4%
	Delaware	129.96	33.07	2.8
	D.C.	90.10	12.10	4.7
	Maine	138.60	26.92	4.3
	Maryland	137.40	25.60	3.6
	Massachusetts	138.72	20.78	4.0
	New Hampshire	182.50	41.42	4.1
	New Jersey	138.14	21.61	4.7
	New York	114.22	15.07	5.1
	Pennsylvania	92.16	6.01	5.1
	Rhode Island	121.41	15.00	4.1
	Vermont	133.76	31.31	3.7
UNITED STATES		**112.14%**	**18.56%**	**5.2%**

Sources: Bureau of Labor Statistics; Data Resources Inc.

The data on teachers' average salaries and state rankings presented in the February issue were the initial fall 1989 estimates published in *Estimates of School Statistics, 1988-89*. The timing and level of the data for all states were consistent. NEA later secured revisions of these estimates and published them in *Rankings of the States, 1989*. The revisions change the rankings very slightly. For example, the average Washington State teacher's salary remained at $29,176 for both *Estimates and Rankings*, but because other states' salary estimates were revised, Washington's rank changed from 18th (shown in the *NEA Today* table) to 21st (shown in *Rankings*).

PACIFIC

Membership in the Oregon Association of Classified Employees/OEA doubled recently—from 1,000 to 2,000—when classified employees in the Salem district voted by a large margin to form the Salem-Keizer Association of Classified Employees (ACE).

"We didn't feel the representation we had before was adequate," says ACE President Charlotte Nielsen, an instructional aide at Bush Elementary School. "It was time for a change."

MIDWEST

The State of Michigan, three state universities, scores of teachers, and a billionaire will soon be collaborating to improve education.

A $48 million program—funded by the state, the universities, and a wealthy shopping-mall developer—will put university professors in classrooms with practicing and student teachers to advise, teach, and study what works.

For the past two years, Michigan Education Association members at six schools have collaborated with faculty members at Michigan State University. The new program will expand to 24 schools.

NORTHEAST

Vermont needs tax reform, many agree, and Vermont NEA has come up with a state property tax plan that will give most taxpayers a break without cutting state revenues. The plan allows homeowners to deduct $50,000 from the assessed value of the house they live in and just pay tax on any value above that. The state is to reimburse towns for the lost taxes, in part with money collected through a "piggyback tax:" Vacation homes and commercial property in towns whose tax rate is below the state average would pay enough extra to raise their taxes to the average rate.

Meet:

THE ARCTIC CIRCLE Doesn't Limit Her Kids

Darlene Heckler teaches 16 second graders at Selawik School in Selawik, Alaska, a village with a population of some 800 about 25 miles inside the Arctic Circle. The nearest city, Nome, lies about 200 miles to the southwest.

Heckler is a native of Selawik, the first to graduate from college. Although "99.9 percent" of her school's 200 students are Alaska Natives, Heckler is the only Alaska Native among the 12 teachers. Her husband, Gene, also teaches at the school.

An Association activist, Heckler was 1988-89 president of the Northwest Arctic Education Association and is serving her second two-year term as a member of the NEA Human Relations Committee.

NEA staff writers Diane Dismuke and Ron Holt recently spoke with Heckler in Washington, D.C.

Tell us about Selawik.
The center of the town is an island connected by two bridges to the mainland. There are no cars, motorcyles, or buses. We get around by foot, snowmobiles, and all-terrain vehicles.

There's air service to Kotzebue, about 70 miles away. From there, planes fly to Anchorage, a major airline hub.

We have TV—in fact we've had cable TV for 10 years now—so the kids know about life beyond our village. But we haven't had electricity and telephones for very long. Electricity came in 1968.

What was your childhood like?
I was born in 1959—the year Alaska became a state. I was the ninth of 12 children.

Although my parents didn't have much schooling themselves, they placed a great priority on our getting an education. My mother was a school cook and had to be at work at 7 a.m., so we were at the classroom doors before the teachers came. All of us graduated from high school.

One of my fondest memories is of my father telling us stories about his childhood by the light of a kerosene lamp. Those nights were really special, because kerosene was expensive and we didn't have much money. We also treasured those times because my father worked away from home and sometimes had to be gone for as long as six months at a stretch.

What's it like to teach in your village?
I love teaching here. This is a close-knit community, and the school is a center for many activities. The kids are eager to learn. In fact, they often call me at night about homework assignments.

And I'm a teacher to the community as well. Many people look to me for information about state resources or different educational programs.

But it takes persistent effort to convince parents to let me have complete control over my classroom, because traditionally in Alaska Native culture, women aren't respected until they're older. I've had to tell parents that I'm the classroom leader even if I'm younger than they are.

And the school serves as a community center, too?
Yes, something's always going on: potluck dinners, community meetings, and, every weekend—basketball. We have basketball fever.

In fact, folks often organize games and charge admission to benefit a family that's just had a death.

We raise money for anyone in our community who has a specific need. Recently someone had to go out of town for heart surgery, and we collected several hundred dollars so a family member could go along.

Was it difficult for you to leave Selawik to attend college?
When I graduated from high school, I went to Portland, Oregon, and worked for two years to earn money for college. Then I earned degrees from Portland Community College and Alaska Pacific University in Anchorage.

One of the hardest things I had to face was the stereotype that Alaska Natives are drunks, aren't very well educated, and know nothing. I cried quite a bit over this. To deal with it, I had to dig really deep inside my own value system that came from my parents.

I tell my students that if they ever meet anyone who tells them they're not worth anything, they should believe in themselves—that they *are* something.

Had you ever been away from Selawik before you went to Portland?
When I was in high school, I spent several weeks in Anchorage and Fairbanks through the Vocational Exploration Program. For 10 years that program gave students the chance to see what life was like outside our village by placing them in jobs with one of several urban businesses. Now it's been ended by a budget cut.

It was a real honor to earn the privilege of being in the program—only the best students could go. For me it was exciting just to get into a car and go to a movie, things I'd never done before. I cooked hamburgers for McDonald's in Anchorage and worked as a nurse's aide in a Fairbanks nursing home.

Do kids travel outside the village more today?
Most do. But some of my students don't—and they find it hard to believe I've traveled on a jet. I got them a model of a Boeing 747, and they're fascinated by it.

I tell them about my travels, including the flights my husband and I take in our Piper Super Cub. Selawik isn't connected to a highway system, but with the plane we can easily visit the closest villages, 70 miles away. Recently—with a lot of perseverance—I obtained my own pilot's license.

What I hope to make my students understand is that there's a big world out there. If they choose to live in the village, that's okay. But there's another world waiting for them if they want it.

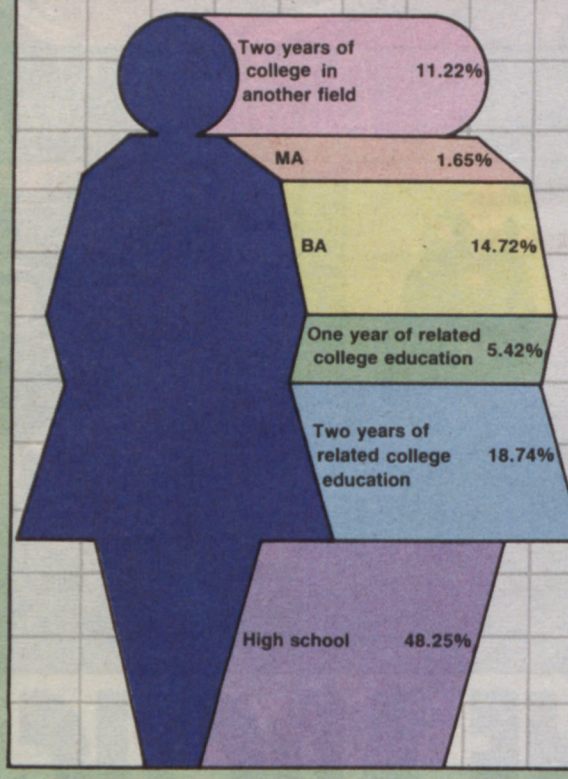
CRITICAL ISSUES

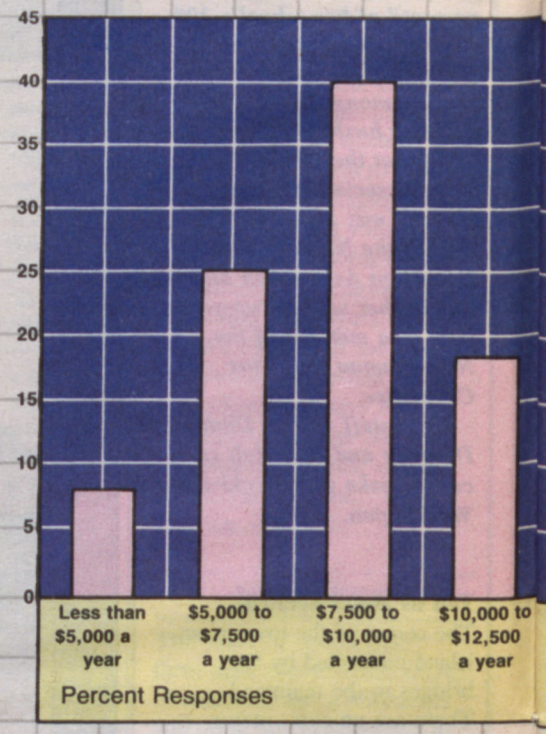
Who Is a Paraprof

A paraprofessional is, most likely, a woman who has more than 10 years' experience and works for less than $10,000 a year. So says a just completed survey of NEA members who work as paraprofessionals.

Level of Education

More than half of all paras responding to NEA's survey have educational training beyond high school. Most reported an interest in more inservice training, career development opportunities, and degree programs. But nearly all expressed frustration that in their communities such programs are unavailable, unaffordable, and unrewarded.


Level of Education
Two years of college in another field 11.22%
MA 1.65%
BA 14.72%
One year of related college education 5.42%
Two years of related college education 18.74%
High school 48.25%



Salaries

Citing low wages as their number 1 issue, nearly 85 percent of the paras responding to NEA's survey said they earn between $5,000 and $12,500 a year. About half of those earn between $7,500 and $10,000 a year. Only 8 percent reported

Iva Howard

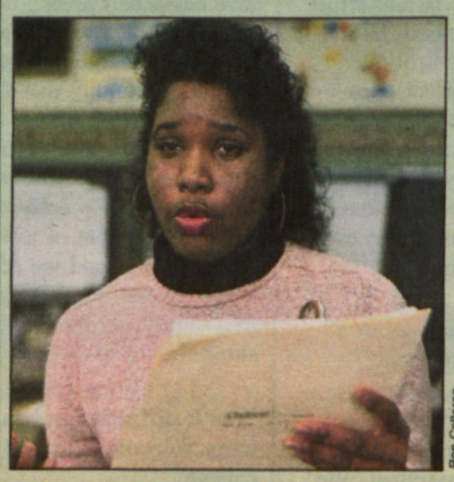
Iva Howard is a bilingual teacher's aide in a fifth grade classroom at Public School #76 in Buffalo, N.Y.

Originally from Panama, Howard enjoys using her language and classroom skills to help all students. But her salary—less than $10,000 a year after nine years of service—prompted her to write this note to NEA.

I'm very proud to be a teacher's aide, helping the children out. But right now, the one who needs a lot of help is myself. It is becoming very hard as a single parent and head of household. After nine years of service, I find myself having to leave my own child with a babysitter to work at nights—just to be able to barely get by....

I know poverty awaits next door. I'm strong and I'm fighting it all the way, but every time a bill comes in the mail, it takes me 10 steps back....

I look at my son and wish I could do better—a whole lot better. He's in kindergarten, and he begs me not to go to work at nights. I love working with kids, but this job should be a respectable one.


Ron Colleran

Margaret Calvin

"I'm like a mother with 13 protective sons or a sister with 13 protective brothers," says Margaret Calvin. "They give me a hard time, but they don't want anyone else to."

A special education paraprofessional at Parkway Elementary School in Portsmouth, Va., Calvin assists a teacher with 13 special needs students—all, coincidentally, boys. Calvin's duties include "reinforcing most of what the teacher does."

"I enjoy working with the kids," Calvin says. "It's very rewarding when you find a kid you can help. Two boys got out of special ed last year—that was a great feeling."

Like most other paraprofessionals, Calvin finds other rewards more elusive. "I've been with the system five years, and I make $7,125 a year. I feel really bad about that."

An Association activist, Calvin is working to improve salaries—but, she says, "it's hard to get paras to speak out. There's a lot of intimidation, and the implication is that if you complain, you won't have a job."

Steve Earley

CRITICAL JOBS

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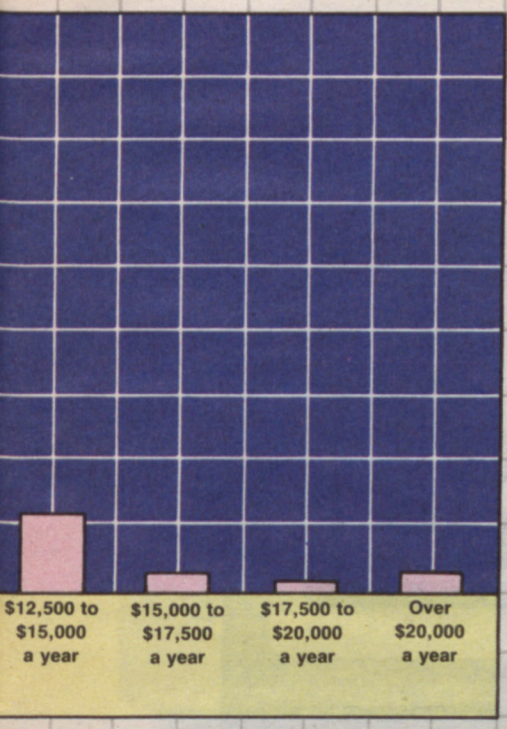
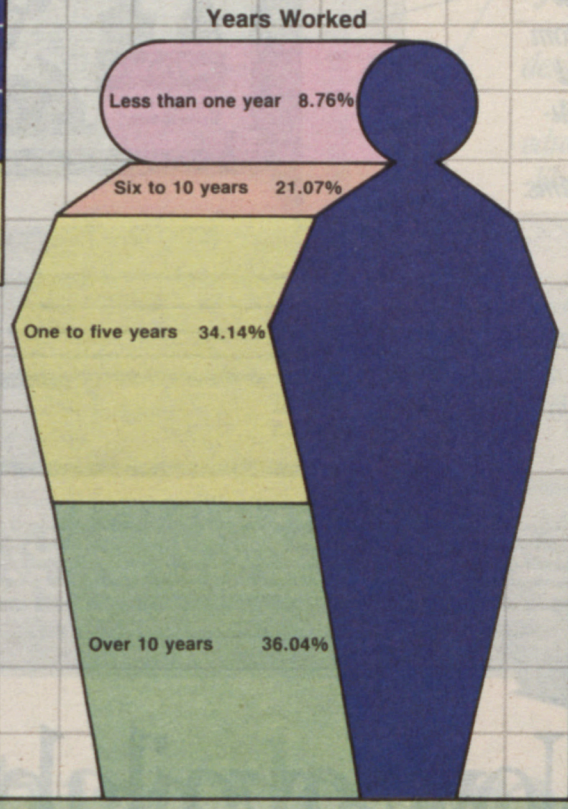


salaries of more than $12,500.

A para who's the sole support of a household is in deep trouble: In 1989, the federal poverty line was set at $9,435 for a family of three, $12,092 for a family of four.

Years of Experience

Paraprofessionals are, by and large, an experienced lot. The majority responding to NEA's survey have worked for more than six years in the schools; over a third have been working in the schools for more than 10 years.



When 'teacher aides' were introduced into classrooms 30 years ago, they did clerical work, housekeeping, a bit of tutoring, often babysitting," says Anna Lou Pickett, director of the National Resource Center for Paraprofessionals in Special Education and Related Services.

"Now, paras are integrally involved in all facets of education," Pickett says. "Kids—particularly in special education, bilingual, compensatory, or preschool programs—need the individual attention one teacher can't provide while teaching a whole class." Paraprofessionals, Pickett notes, have stepped in to help teachers make sure students get that special attention.

Today's "teacher aides" work as assistants, coordinators, interpreters, early childhood specialists, computer experts, and paraprofessionals. The more roles have changed, however, the more salaries have stayed the same.

A recent informal NEA survey of paraprofessionals drew more than 1,500 responses—many of them impassioned. When asked to cite the number one issue facing paraprofessionals, 73 percent said: low wages.

It's no wonder, considering the salaries they reported. (See chart at left.) "I knew what the wages were coming in," says one Ithaca, N.Y., assistant about her $6,000 salary, "but I haven't worked for less money since I was 12. Now I could babysit for more."

"It's clear from both the number and the intensity of the responses we got to our survey that paraprofessionals need more of everything," says NEA organizational specialist Teresa Rankin.

NEA now has 174,000 education support members—a large percentage of them paraprofessionals. As their numbers increase, Rankin notes, Association locals are beginning to see scattered victories—like salaries above $20,000 in New Jersey, pay equity in California and Nevada, and career development opportunities in Michigan and Maine.

"Overall improvement is inevitable," she adds. "After all, for many paras, the only way to go is up."

Pickett estimates that there are at least half a million paras working in schools today; many more will be needed.

"There'll be a need for more special education paras, more preschool assistants, more afterschool paras, more bilingual paras, and more paras in computer labs," she predicts. "None of them will be brought in to replace teachers. Instead, it's an acknowledgment of the ways teachers' roles are evolving. Teachers are becoming classroom managers; paraprofessionals are their staffs."

—Stefanie Weiss

Peggy Anderson

Peggy Anderson learned to talk from her grandparents. "Both my folks are totally deaf, and American Sign Language is my native language," she explains. "I started interpreting for my parents at age 4."

Now Anderson interprets for six hearing-impaired students at Everett High School in Lansing, Mich.

"I enjoy letting the deaf students I work with know that with an education, support, and the right tools, they can do anything they set out to do."

Despite the rewards, Anderson has two critical concerns about her job.

► First, educational quality for hearing-impaired students. In addition to program changes, Anderson would like "hearing teachers and students to go through an orientation so they can better understand deafness and deaf culture."

► Second, salary. "I make $11,500 a year," Anderson says. "I could make 50 percent more outside of school. If I didn't love the kids and want to be able to share something valuable with them, I wouldn't be working here."

David Olds

Barbara Yaun

As coordinator of Anacortes (Wash.) High School's learning lab, Barbara Yaun spends her days—

► Coordinating all lab work, planning, and logistics in computer-assisted lab

► Operating three different kinds of computers

► Handling all paperwork for the lab, including quarterly reports, word processing, and spread sheets

► Performing clerical tasks, running errands, and helping order supplies

► Tutoring students in math and English.

After 15 years as a paraprofessional in the Anacortes school district—three years in her current job—Yaun makes about $10,000 a year.

"Overall I like the job," Yaun says, "but my biggest problem is that I think I should have a different title—and consequently more pay—to be doing what I'm doing.

"There's no ladder, no way to move up. It's hard to feel good about my job," Yaun says, "when there's no recognition for the work I'm doing."

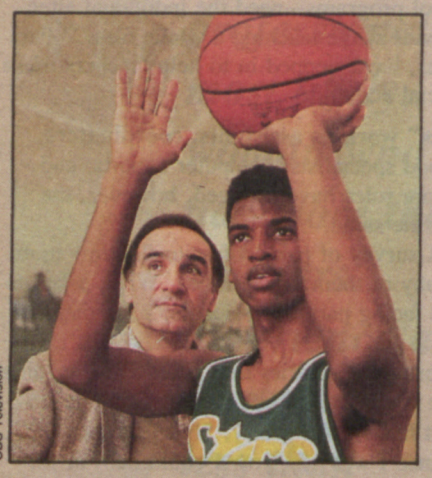
Steve Schroeder

RESOURCES

TV/Radio Tips

Avonlea—*The Disney Channel, Mondays, March 5-26, 8 p.m. ET.* From the creators of *Anne of Green Gables* comes a new dramatic series about Sara Stanley, a 10-year-old whose active imagination and penchant for telling stories affect everyone in Avonlea, the small island village that has become her home.

Malcolm Takes a Shot—*CBS Schoolbreak Special, Tuesday, March 6, 4-5 p.m. ET (closed-captioned).* When a rising young basketball player is diagnosed as having epilepsy, he



CBS Television

discovers there's more to life than being a sports hero.

For study guides for all the 1989-90 Schoolbreak Specials, contact KIDSNET, 6856 Eastern Ave., Suite 208, Washington, DC 20012, or CBS Educational and Community Services, 51 West 52nd St., New York, NY 10019.

Journey to the Forgotten River—*PBS, Wednesday, March 7, 8-9 p.m. ET.* This National Geographic special captures the life-and-death struggles of nature as the Linyanti region of northern Botswana endures extreme drought.

Sven Arnstein

The Phantom of the Opera—*NBC; check local listings for date and time.* Charles Dance and Burt Lancaster star in this classic tale of a masked figure who haunts the Paris Opera House and risks his life to win the love of a young actress.

Song of Survival—*American Public Radio, Thursday, March 8; check local listings for times.* In honor of International Women's Day, this two-part program tells of the rediscovery of classical music arranged and sung by women in a Japanese prison camp during World War II.

Sixth Annual World's Largest Concert—*PBS, Thursday, March 8, 1-1:30 p.m. ET.* Listen to the sound of musicians—7 million strong—as teachers, students, and community members across the country and around the world join the McDonald's All-American High School Band in a concert for the Music Educators National Conference.

Black Tide—*The Discovery Channel, Sunday, March 18, 8-9 p.m. ET, repeating Thursday, March 22, 10-11 a.m. ET, and Friday, March 23, 11 p.m.-midnight ET.* On March 24, 1989, the *Exxon Valdez* spilled more than 11 million gallons of oil into Alaska's Prince William Sound. Almost a year

ABC Television

to the day later, the Discovery Channel looks at the devastating effects of this environmental disaster.

The Accident (working title)—*ABC, Thursday, March 22, 4-5 p.m. ET (closed-captioned).* What's the ultimate cost of drunk driving? This ABC Afterschool Special (photo at left) shows just how tragic the consequences can be.

These listings are provided by KIDSNET.

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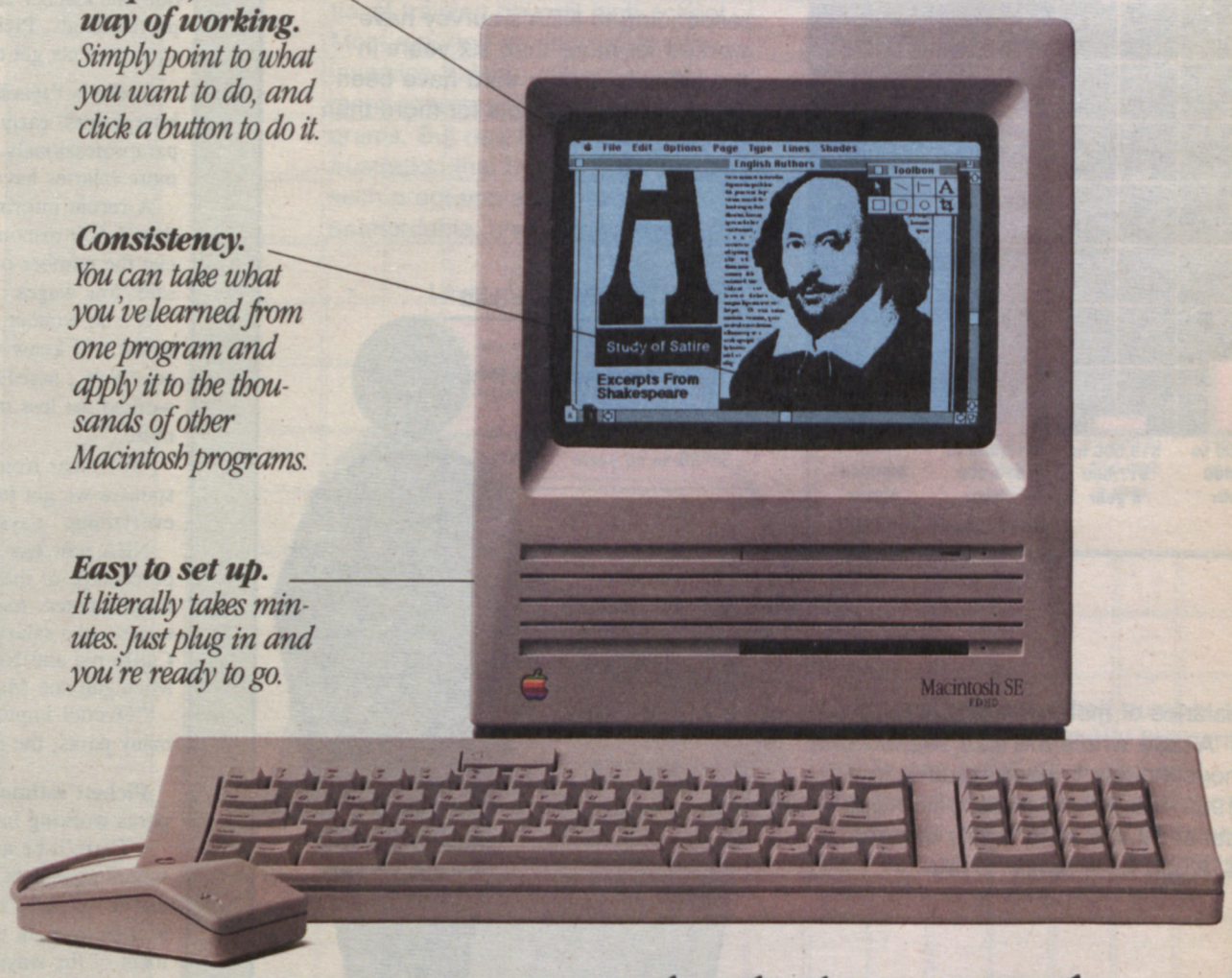

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RESOURCES

Free or Inexpensive

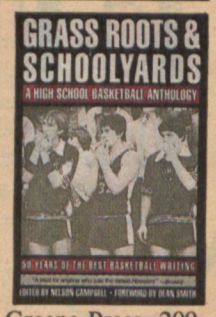
SCHOOL SECURITY

School Violence: A Survival Guide for School Staff. Chester L. Quarles. Provides advice on crisis management and employee safety. 48 pp. $6.95. Stock no. 0243-1-00-D. NEA Professional Library, P.O. Box 509, West Haven, CT 06516.

ART/SOCIAL STUDIES

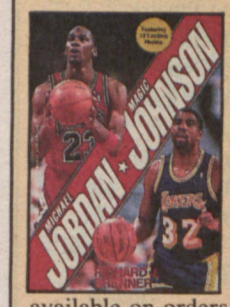
Editorial Cartoons by Kids. Compiled by the editors of *NewsCurrents*. Prize-winners and other top entries in the weekly newsmagazine's 1989 Student Editorial Cartoon Contest. 188 pp. $7.95 plus $2 p&h. Knowledge Unlimited, Inc., P.O. Box 52, Madison, WI 53701-0052, 800-356-2303.

WRITING/SPORTS



Grass Roots & Schoolyards: A High School Basketball Anthology. Nelson Campbell, editor. Historic basketball stories from the little towns, the big cities, the "in-betweens." Stephen Greene Press. 209 pp. Paperback, $8.95. From booksellers; by mail from New American Library, Order Dept., Box 120, Bergenfield, NJ 07621; or by phone with credit card from 800-526-0275.

READING/SPORTS



Michael Jordan/Magic Johnson. Richard J. Brenner. A dual biography of the two great basketball stars, in easy-reading format. $2.95 plus $1.25 p&h (discounts available on orders of 25 or more). 112 pp. incl. 12 b&w photos. East End Publishing, 54 Alexander Dr., Syosset, NY 11791, 516-364-9723.

READING/WRITING

The* New York Times *Reader. Sam Roberts. A *New York Times* reporter has collected some 40 recent but timeless stories you can use to hook kids on newspaper reading—or writing. Macmillan/McGraw-Hill. 238 pp. 1-4 copies, $10.64 each; 5 or more copies, $7.98 each. Teacher's guide available for $3.90. American School Publishers, P.O. Box 408, Hightstown, NJ 08520-9377, 800-843-8855.

READING/HISTORY

Little House Country: A Photo Guide to the Home Sites of Laura Ingalls Wilder. Text by NEA member William T. Anderson. Photos by Leslie Kelly. A full-color guidebook to homes and writing locales of the *Little House on the Prairie* author. 48 pp. $10 (CA orders add 6.25% sales tax) plus $2 p&h per order. Les Kelly Enterprises, 15802 Springdale St., Box 14, Huntington Beach, CA 92649.

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From Page...

OUR TOWN

When the curtain goes up on the high school stage, what will you see? Some recent Broadway favorites, of course—and maybe some you didn't expect to see again.

Student theatre productions range from Greek tragedies to avant-garde experiments, but many of today's really popular pieces are the same ones you may have acted in during your own high school years.

Why are classics like *Our Town, You Can't Take It with You,* and *Grease* still the most popular plays in high schools around the country? (See box on opposite page.)

"For one thing, they're good plays," says Don Corathers, editor of *Dramatics* magazine, a publication of the Educational Theatre Association. "They're well-written. And they require large casts—always a consideration when you're trying to involve students in theater arts."

"Besides," Corathers adds, "they're relatively safe—not as controversial as many contemporary plays in terms of language, subject matter, and appeal to community audiences."

Alycia Evica, head of the drama department at Hall High School and member of the West Hartford (Conn.) Education Association, agrees. "It's really hard to find a play written after 1945 that doesn't bring pressure from the community," she says.

"We still do experimental and contemporary plays," adds Evica, "but for a smaller audience. The world of Broadway and the world of high school theater are often very different."

Cedar Rapids, Iowa, drama teacher Michael Peitz adds, "At the annual Thespian festivals, I've seen a swing toward more traditional plays. In the 1970s they often presented things that were surprising, with language that was more sophisticated, plays like *Kennedy's Children* by Robert Patrick and *Applause*—but that's unusual today."

Peitz and Evica note that the larger, more popular productions do offer economic and artistic advantages. If they bring in large crowds, the box office receipts pay for smaller productions of more serious plays.

"Like any professional theater, we do a range of works," says Peitz. "Last spring we did *Pirates of Penzance*, and this year one of the plays we're doing is *Whose Life Is It Anyway?*"

"A drama department's got to perform a variety of plays if it's to develop a sound theater program," says William Crossett. Crossett should know: for 25 years he's headed the drama department at Meadowdale High School in Lynwood, Wash., north of Seattle.

A professional actor and Association member as well, Crossett has offered his students a wide range of roles: from Bottom in Shakespeare's *A Midsummer Night's Dream,* to Conrad Birdie in *Bye Bye Birdie*, to a young alcoholic in *Suitcase*, an original play by one of Crossett's former students. Currently, Crossett is directing a student production of William Inge's *Bus Stop*.

Developing a varied schedule of productions means first of all knowing what plays are available. "There are drama catalogs around, but it's better to tap into the networks around you," says Crossett. "Find out what other schools are doing, contact the local theaters, and get involved with your local and statewide Alliance for Arts Education program."

To pick a good play for your school, you need to consider several points, says theater veteran Russell Link, who teaches English and drama at Buffalo's Academy for Visual and Performing Arts.

"First, cast size. Many of the popular musicals are great because they have many roles for students to play. That involves more students—and *that* creates a larger audience," Link notes.

"Next, is the play available to you? The fees for performing certain plays are too high to make sense. Then, if a professional company nearby will be doing the play at the same time, you won't get permission to perform it at all."

The greatest challenge, according to Link, is to get the students interested in a particular play. "You do that by devising a production that makes them want to get involved. A few years ago, we did Shakespeare's *Comedy of Errors* Caribbean-style. Instead of the Aegean Islands, we set the play in the Caribbean, which made it far more appealing to our students."

Crossett, who's retiring at the end of this school year, agrees. "The teacher who takes on this department next year must choose new plays and develop new areas of interest for our students. Sometimes the play will be the same but the milieu will be different—Shakespeare's *Macbeth* set in the American West, for example."

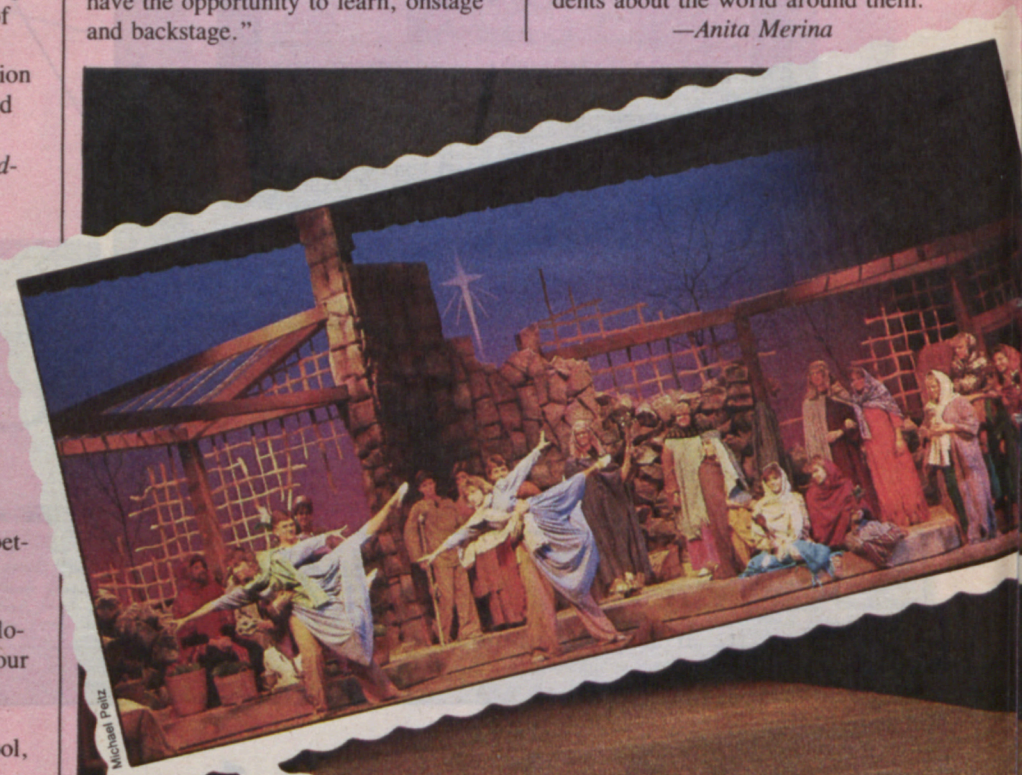
"The real value of the theater," says Link, "is its ability to teach. Musicals and plays like *Grease* and *Our Town* are valuable because they entertain, but more important because our students have the opportunity to learn, onstage and backstage."

For this reason, arts advocates want to make arts part of the basic curriculum.

"The theater is the world in microcosm," says Russell Link. "In rehearsal you learn responsibility and how to interact with others. And you must be physically and mentally healthy to undergo the rigors of performances.

"Use the plays to bring up issues you want your kids to think about, and use the production to create values and abilities you want your students to have. It's a superb way to teach students about the world around them."

—Anita Merina

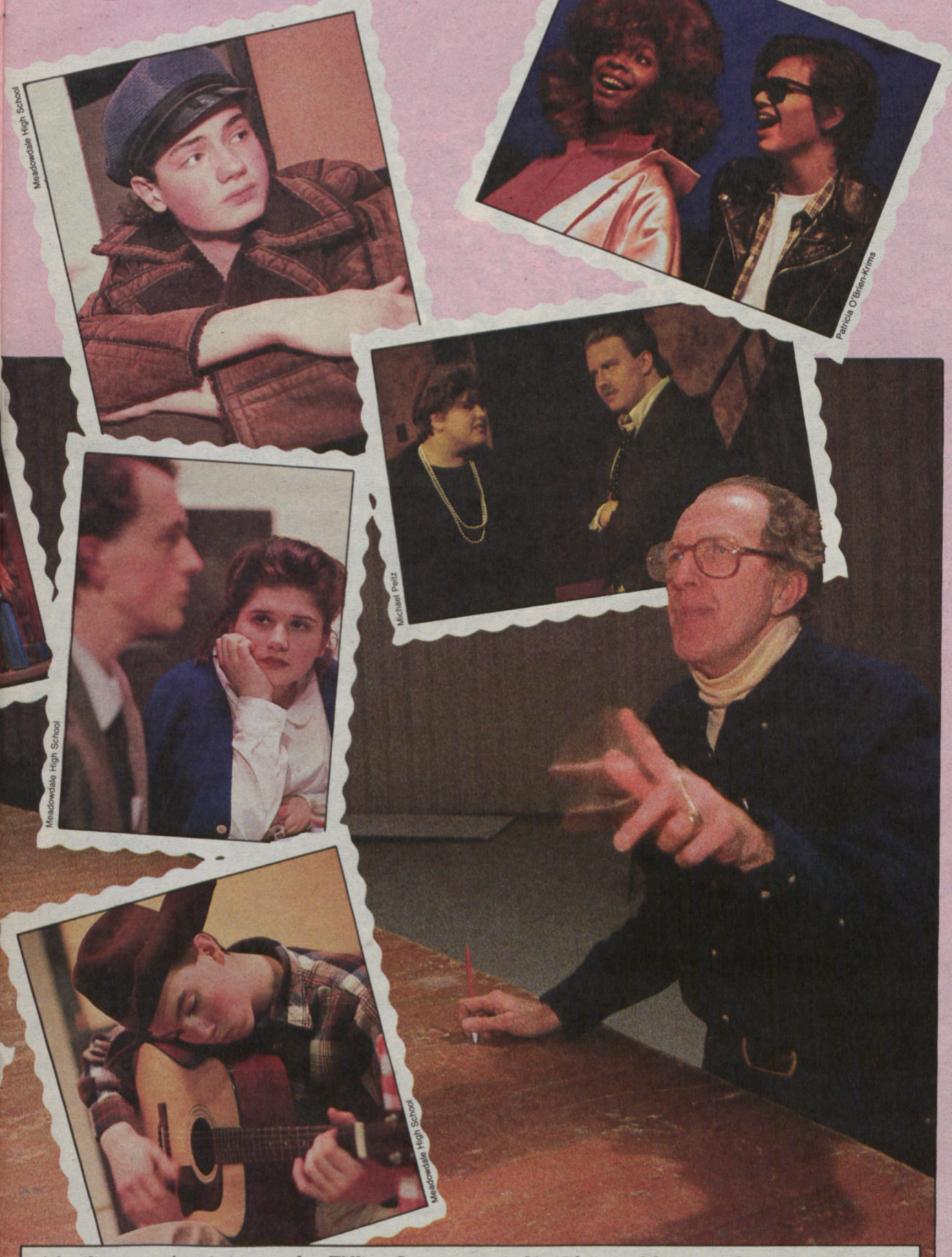


Michael Peitz

Patricia O'Brien-Kuns

...To Stage

TO GREASE



A familiar pose: Association member William Crosset—now in his 25th year of drama coaching—directing another student production. Students take the stage in: (clockwise from lower left, opposite page) Grease *by the Buffalo (N.Y.) Academy of Performing Arts;* Amahl and the Night Visitors, *Thomas Jefferson High School (Cedar Rapids, Iowa);* Bus Stop, *Meadowdale High School (Lynwood, Wash.);* Grease *(Buffalo Academy of Performing Arts);* Seven Keys to Bald Pate *(Thomas Jefferson High School);* Bus Stop *(Meadowdale);* Bus Stop *(Meadowdale).*

Elaine Thompson

What's Hot?

Since 1930, Dramatics *Magazine has published results of an annual survey indicating the plays most often performed by U.S. high schools. Here are the 21 plays that made the current "top 10" list, along with the years they were first performed.*

1. *Grease* (1972), Jim Jacobs and Warren Casey
2. *You Can't Take It with You* (1936), George S. Kaufman and Moss Hart
3. *Oklahoma!* (1943), Richard Rodgers and Oscar Hammerstein
   You're a Good Man, Charlie Brown (1967), John Gordon and Clark Gesner
4. *A Midsummer Night's Dream* (1595), William Shakespeare
5. *Arsenic and Old Lace* (1941) Joseph Kesselring
   The Crucible (1953), Arthur Miller
   Up the Down Staircase (1969), Bel Kaufman
6. *Bye Bye Birdie* (1960), Michael Stewart, Charles Stuart, Lee Adams
   Little Shop of Horrors (1983), Howard Ashman and Alan Menken
7. *The Curious Savage* (1950), John Patrick
   The Miracle Worker (1959), William Gibson
   Once Upon a Mattress (1960), Jay Thompson, Marshall Barer, Dean Fuller, and Mary Rodgers
8. *The Diary of Anne Frank* (1955), Frances Goodrich and Albert Hackett
9. *Guys and Dolls* (1950), Frank Loesser, Jo Swerling, and Abe Burrows
   The Nerd (1988), Larry Shue
   The Night of January 16th (1935), Ayn Rand
   Our Town (1938), Thornton Wilder
10. *Fools* (1981), Neil Simon
    South Pacific (1940), Richard Rodgers and Oscar Hammerstein
    The Wizard of Oz (1968), Frank Baum

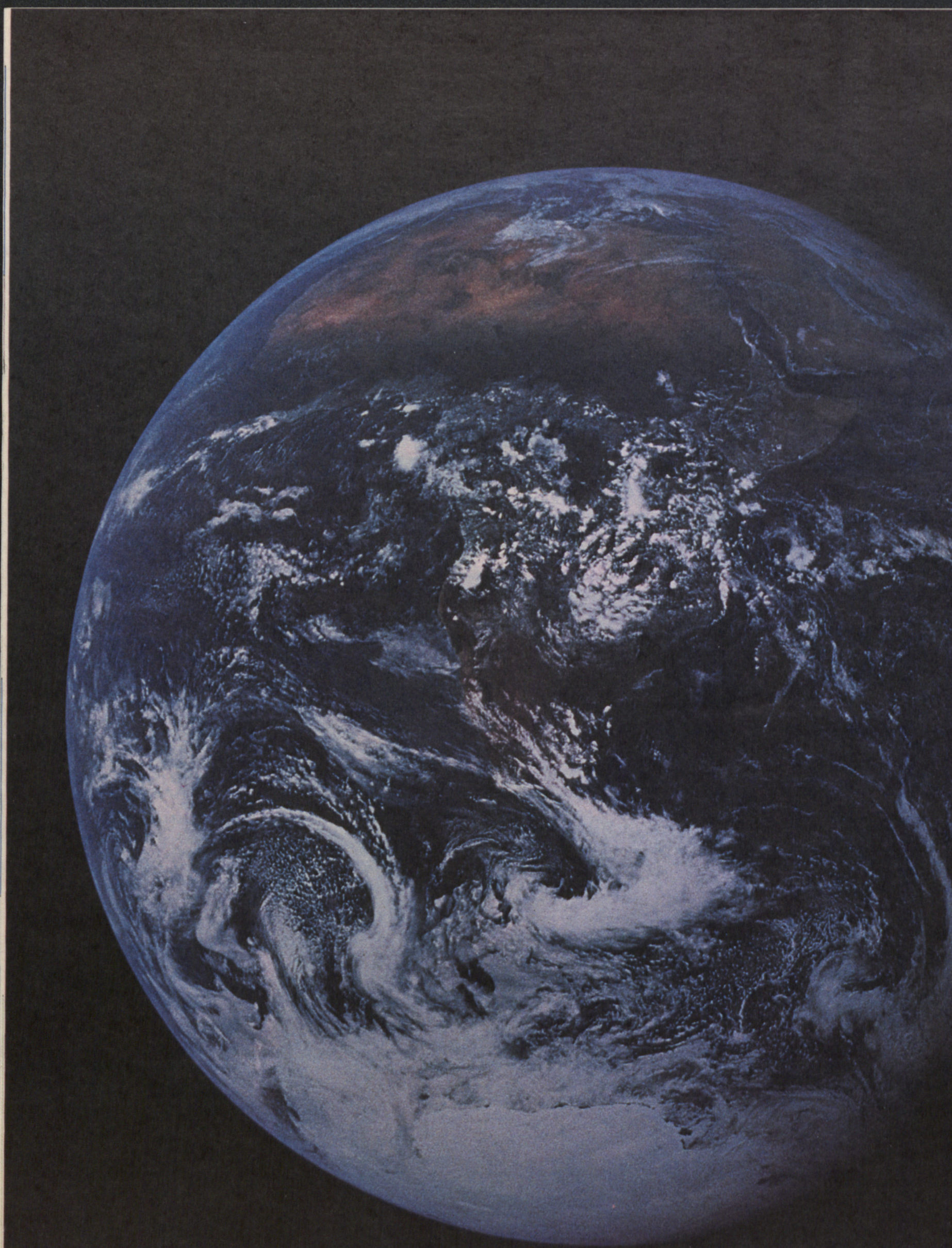
Resources

Are you looking for ways to enrich your theater program? The following sources offer a variety of festivals, seminars, and publications to keep your productions and teaching techniques fresh.

Alliance for Arts Education
John F. Kennedy Center for the Performing Arts
Washington, DC 20566
202-416-8800

The Educational Theatre Association
3368 Central Parkway
Cincinnati, OH 45225
513-559-1996

Getty Center for Education in the Arts
1875 Century Park East, Suite 2300
Century City, CA 90067



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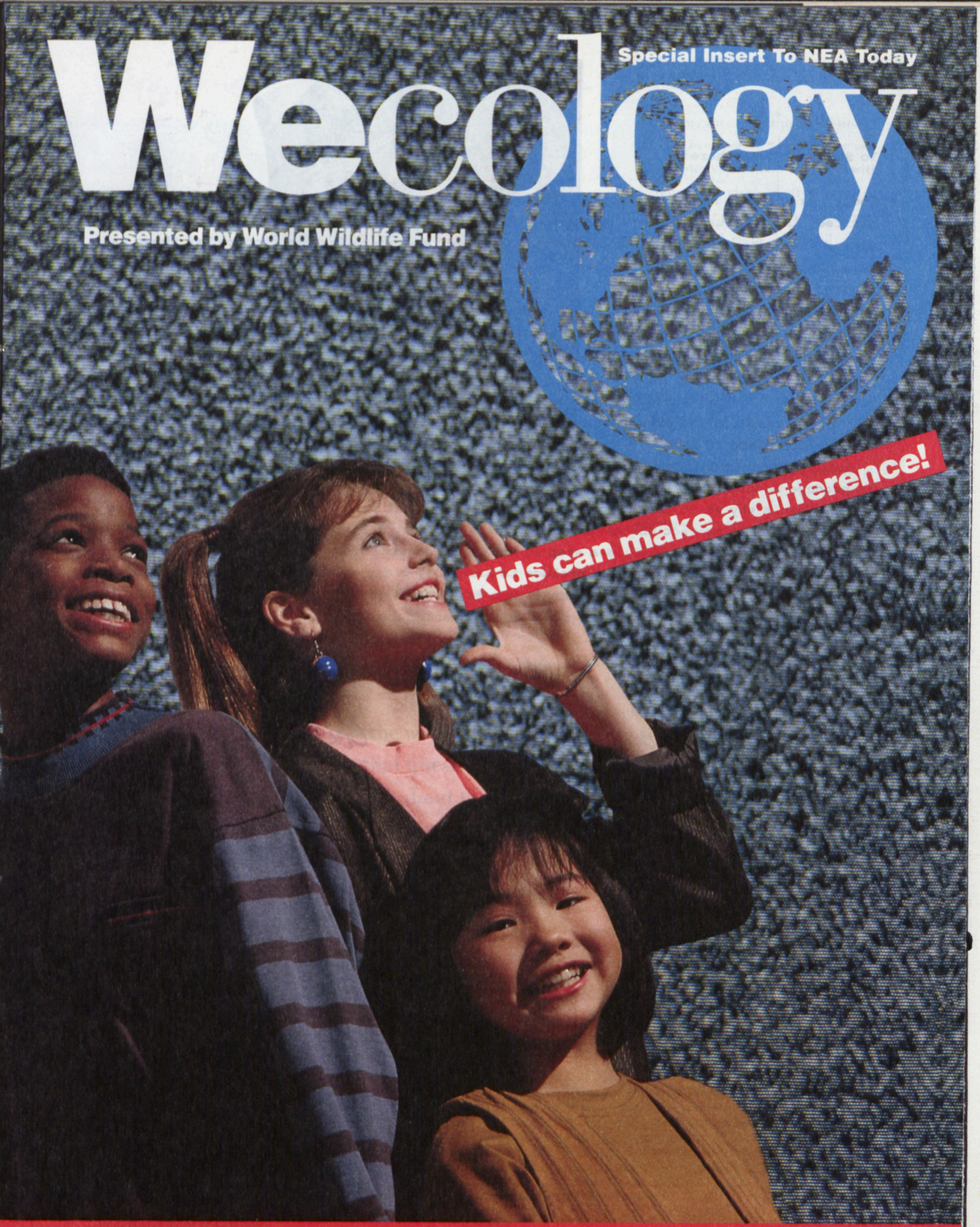
Special Insert To NEA Today

Wecology

Presented by World Wildlife Fund



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But what if you thought of the world in a different way—up and down instead of across? Think of a place five miles away from your house—it could be the post office. You can drive five miles in less than 10 minutes. But if you went only five miles straight up you would hardly be able to breathe anymore. The atmosphere soon turns into the cold vacuum of outer space, where nothing can live.

Look at a globe. Try to figure out how far above the surface that atmosphere extends. A foot? An inch? Much less—not even the width of your finger. All people and plants and animals have to live inside that narrow zone of air. That is why you should worry about pollution. Let's look at the size of your bedroom. If it were as big as a football field, no one would even know where you'd tossed your dirty clothes. But we live in closer quarters than that.

For most of human history, the Earth was not very densely populated. But advancements in medicine and agriculture have helped bring about a dramatic increase in the world's population. There are now five billion people living on the Earth, and there will probably be six billion by the year 2000.

Those billions of people will take part in normal human activities—driving cars, heating homes, eating meals, and throwing out trash—that can pollute the air, the land, or the sea.

It may not seem fair to you that you are not inheriting a healthy environment. But each generation has its challenges, and this is yours. Anyway, it's not a matter of fair or unfair—it's a matter of facts.

Local Pollution

Trash is probably the most basic kind of pollution. We throw out enormous amounts of garbage every day: cans and bottles, old newspapers, the plastic wrap that covered the chicken. If you buy a candy bar, you have to throw away the wrapper, which becomes trash. If you throw *Wecology* in the wastebasket, it also becomes trash.

How much trash do we produce? The average American family throws out 70 pounds of trash a week. If that family saved its trash for a year, it would weigh as much as a car.

It's hard to understand just how much

Recycle, Recycle, Recycle!

A spray-painted trash can with wings may not be on your wish list, but kids at Carus Elementary School in Oregon City, Oregon, work hard for this unusual award. It is given to the class that recycles the most trash each week.

In Columbia, Connecticut, students at the Horace W. Porter Elementary School sing a song with the refrain, "Recycle, recycle, recycle." But the students don't just sing about recycling—they do it. They separate the plastic trays, cups, and utensils from their lunches so they can be sent to a recycling plant.

Join the growing chorus of recyclers. Start a school recycling program and recycle at home. Write to the National Recycling Coalition at 1101 30th St. N.W., Suite 305, Washington, D.C. 20007, for more information. The Environmental Defense Fund's free brochure, *If You're Not Recycling You're Throwing It All Away*, also contains information on recycling. For your copy, call 1-800-225-5333; or write to the E.D.F. at 257 Park Ave. So., New York, NY 10010.

Choose To Reuse

"You really think about everything you use when you carry it on your back," said Dartmouth student Drew Jones. He should know. He and more than 100 other students and teachers at the college recently carried their garbage around with them for a whole week! It was an unusual lesson in the growing problem of solid wastes.

Lucky for the participants, they were only carrying their garbage for a week. Each person in the U.S. produces an average of 1,000 pounds of garbage each year! That adds up to more than 150 million tons of garbage for the entire country. Eighty percent of this garbage ends up in landfills, though much of it is reusable or recyclable. At Dartmouth, the garbage "collectors" found that 350 pounds of their 550 pounds of garbage were recyclable!

You can help reduce your garbage load. One way to do this is by recycling. Many glass, metal, paper, and plastic products can be recycled. You can also reduce your garbage load by using reusable products.

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The House That Trash Built

Architect Michael Reynolds has chosen to recycle 3,000 used tires and 200,000 empty aluminum cans in an entirely new way. He is using them to build a house! Right now, Reynolds is building one of his "earthship" can-and-tire houses for actor Dennis Weaver. And, though it's being built of garbage, Weaver's house won't be a dump. It will have 14 rooms, complete with waterfalls, whirlpools, and a sweeping view of the Colorado Rockies.

trash we throw out until you see a big dump or sanitary landfill. In New York City, a lot of the trash goes to one big landfill on Staten Island. It arrives in huge barges, which are unloaded by cranes (and by seagulls, who divebomb the dock looking for scraps). Today's trash is heaped on top of yesterday's, with a thin layer of dirt put in between. Everywhere you look there is trash. When it is completely filled up, the dump on Staten Island will be 500 feet tall. That's taller than a 30-story building.

Trash, Old and New

People have always thrown things away, but not as much as they do now. Why did people in olden days throw less out? For one thing, they had less to begin with. They didn't have many of the conveniences we do. Say they wanted some candy. Instead of going to the store, they had to make it. It was hard work, but there was no wrapper to throw away.

When people did buy something from the store, they often reused the package it came in. For instance, they might have reused jars to store vegetables for the winter. They might have made a shirt out of the cloth sack the flour came in.

And whatever people did throw out was usually made from wood or other natural material. That meant it would eventually break down and return to the soil, or degrade when it was exposed to air or water. Today, much of what we throw out isn't naturally degradable.

Throwaway Lifestyle

Some people call America a "disposable society." We are used to cheap and convenient products that are soon tossed out. For example, instead of using "old-fashioned" cloth diapers that could be washed and used again and again, we put "modern" disposable diapers on our babies. That may be easier for parents. But disposable diapers create enormous piles of garbage.

This throwaway lifestyle causes big problems for the world. For one thing, it wastes an enormous amount of resources. You have to cut down whole forests of trees to make newspapers, for example. It also causes a lot of litter. All too often peo-

"We need to add to the world, not destroy it."

Lenny Kravitz, Musician

"Teenagers can do simple things to help the environment. Don't litter for example. Make a small effort, every little bit helps."

Debbie Gibson, Musician

Fun Facts

Recycling a three-and-a-half foot tall stack of newspapers saves one 20-foot loblolly (Southern) pine tree.

ple just toss their trash out car windows or over the sides of boats. Not only is this ugly, it can also kill animals.

Using Less More

What can we do about all this trash? Recycling is one promising way to deal with the problem. Probably some people in your community already recycle bottles, cans, newspapers, and plastic. Instead of just tossing them out, they set them aside so they can be specially collected. The newspapers are broken down and made into new paper. *Wecology* is printed on recycled paper. Glass and metal are melted down and made into new containers. Plastic is melted down and made into combs, park benches, cassettes, and other products.

An even better way to deal with the garbage problem is to reduce the amount of manufactured products we use in the first place. We don't need to go live in caves, or give up all our modern conveniences to do that. We just need to work a little harder.

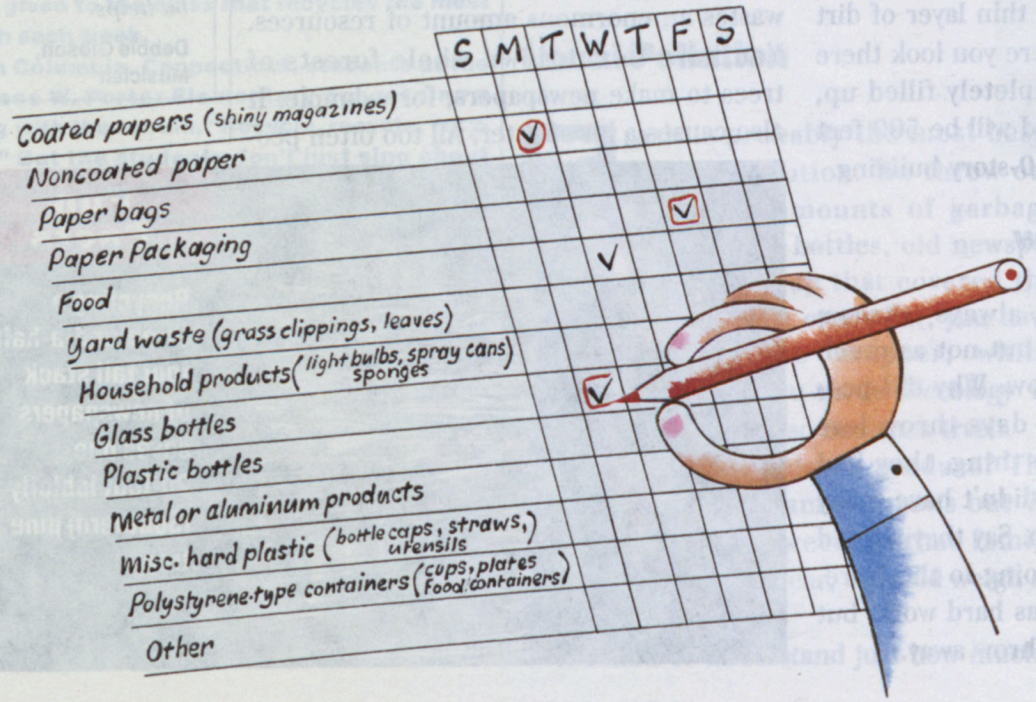
Here's an example. The bagger at the supermarket might put your groceries in a plastic bag or he might put them in a paper bag. Making the plastic bag takes oil, and that bag will linger in the environment long after you toss it out. The paper bag will eventually rot in a landfill, but making it required cutting down a tree. You could help save natural resources *and* reduce pollution if you took a few cloth bags with you each time you went to the store.

There are plenty of other kinds of local pollution, but thinking about garbage is a

Keeping Track Of Trash

Most people throw away a lot of trash that could be reused or recycled. How about you? Copy the chart below on a piece of paper to keep a trash inventory for a week. Make a check each time you toss out an item. Put a circle around it if you could use it again; a square around it if it's recyclable. (Find out from your local sanitation department if your community is recycling. If it isn't, find out how to start your community doing it.)

At the end of the week, look at the chart. Decide what you might be able to reuse or recycle in the future to cut down on the amount of trash you produce.



Everything Old Can Be New Again (Well... Almost)

Products made out of recycled materials are all around you. *Wecology*, for example, is printed on recycled paper. Nearly 25 percent of this country's newspapers are printed on recycled paper. Recycled paper is also made into such items as cereal boxes and toilet tissue.

Recycled glass bottles and jars turn up again as new glass containers. Sometimes they turn up underfoot—they are the glitter in asphalt streets and sidewalks.

Aluminum is usually recycled right back into foil and cans.

Even leaves and grass clippings can be made into compost, a decayed mixture used for fertilizer.

Last week's plastic milk or Big Mac container may also be on its way to a new life. Recycled plastic is used to make yo-yos, park benches, hair combs, cassettes, and lots of other things.

WWF

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good place to start because it's so easy to see. And you don't need to be a scientist to figure out how to cut down on trash. You just need to be willing to work at it a little harder day in and day out.

Long-Distance Pollution

About 20 years ago, people in New England began to notice that their trees and the wildlife in their lakes were dying. Whole hillsides of green spruce trees turned first brown and then a dead gray. Lakes once filled with fish were becoming empty. At first no one was sure why this was happening. Then scientists began to test rainfall in the area. They found that it had turned acidic; in some places it was as sour as vinegar or lemon juice. Acid rain was killing the trees and lakes.

Scientists looked around New England for possible sources of this acid rain, but they couldn't find anything. Then they looked a little farther away. In the midwestern United States, hundreds of miles from the dying forests, they found the source of the problem: power plants that burned coal to make electricity.

In the past, the smoke from the burning coal had polluted the areas around the power plants. Then someone thought of a way to stop this local pollution. They built enormous smokestacks—some nearly as high as the Empire State Building—at the power plants. Sure enough, the coal smoke went out the top of the giant stacks and, carried by the wind, disappeared.

Well, not quite. The smoke went out the top of the giant stacks and was blown towards New England. That smoke contained sulfur dioxide and other sulfur vapors. Chemical reactions high in the atmosphere changed some of the sulfur to acid droplets. Later, when rain fell over the mountain forests, sulfuric acid fell with it making lakes and soil acidic.

Chemicals Know No Borders

This problem has since shown up in other parts of the country and around the world. Even the remote parts of the American Rocky Mountains report increasingly acidic rain. American pollution is drifting across the border into Canada and destroying its forests—and putting a strain on U.S.-Canada relations.

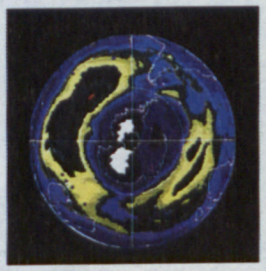
Although we know the cause of this problem, very little has been done to fix it. Some utilities refuse to switch from coal to other fuels, or to install equipment on their smokestacks to trap sulfur. They say it's too expensive or that it's not fair to make only their customers pay more for their power. Since the government in one

CFCs: Chemicals With Bite

Scientists say that chlorofluorocarbons are helping to eat a hole in the atmosphere. These invisible chemicals, which are also called CFCs, are contained in air conditioners, refrigerators, aerosol cans, and some types of plastic.

Some scientists believe CFCs have created holes in the ozone layer above Antarctica and the Arctic. These holes are bad news. The ozone layer protects life on Earth against the sun's harmful ultraviolet (UV) rays, which cause skin cancer and crop damage, among other things.

What is being done about CFCs? Dozens of nations, including the U.S. and Canada have agreed to cut production of the chemical in half by the year 2000. Individual companies have also taken steps to reduce CFCs' damaging effects on the atmosphere. Several years ago, McDonald's in the U.S. stopped using food packaging that contained fully-halogenated CFCs. DuPont, which produces nearly one-fourth of the world's CFCs, plans to phase out all CFC production by the year 2000.



Cleaning Up Our Act

One of the simplest steps you can take towards improving our environment is to help clean up your community. The following organizations will help do just that.

Keep America Beautiful, which already works with volunteers in more than 450 cities and communities, will

help you start your own community cleanup. For information, contact the organization at 9 West Broad St., Stamford, CT 06892.

Each fall, the Center for Marine Conservation sponsors a coastal cleanup. If you live near a coast and would like to find out about this event, contact the center at 1725 DeSales St. N.W., Washington, D.C. 20036.

Glad's Annual Bag-a-thon, which begins March 19, is the largest cleanup and recycling program in the U.S. For information on how you can join this program, call 1-800-262-GLAD.

THE ENVIRO

What in the world is McDonald's doing about it?

RECYCLED PAPER:
McDonald's® is the largest user of recycled paper in the quick service restaurant industry. Happy Meal® boxes, napkins, trayliners, and many other items McDonald's uses are made of recycled paper.

RECYCLED PLASTICS:
In more and more McDonald's, you'll find two waste bins—one for recycling plastics, and one for other trash.
McDonald's is involved in recycling projects that create all kinds of new uses for recycled plastic waste including plastic lumber for parks and playgrounds.

FOAM PACKAGING:
McDonald's was the first in the restaurant business to remove fully halogenated chlorofluorocarbons (CFC's) from its polystyrene packaging in the U.S.
Based on the best available information on the environmental impacts of different types of packaging, McDonald's continues to believe that polystyrene is environmentally better than the present alternatives, and it can be recycled.
McDonald's is committed to exploring new options as they become available.

RAIN FORESTS:
McDonald's believes the rain forests of the world should be protected.
McDonald's does not, has not, and will not purchase beef from rain forest or recently deforested rain forest land.

SOURCE REDUCTION:
Millions of pounds of packing and shipping materials will have been eliminated from McDonald's operations.
For example, McDonald's paper hamburger wrappers and foam packages have been made thinner.

Together we can make a cleaner world.

Kevin W. Kelley, *The Home Planet*, c. 1989 by Kevin W. Kelley. c. 1990 McDonald's Corp.
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What in the world can you do?

We are all responsible for our environment. To find out some things you can do to help make it cleaner, read on.

RECYCLE.
Recycle glass, plastics, metals, paper, and other valuable materials.

DON'T LITTER. PITCH IN.
Join a clean-up campaign in your neighborhood.

PLANT A TREE.
Three properly placed trees in your yard can cut air-conditioning needs in half. Trees in cities are incredibly effective in cutting air pollution. And, they spruce up the neighborhood.

USE A BIKE OR WALK.
You pollute much less than a car. So cut down on short rides. You'll feel better, too.

SHOP WITH A TOTE BAG.
Think of all the shopping bags you just throw away. Take your own tote bag shopping. You just might start a new fashion trend.

GET INVOLVED.
We believe that people your age are environmentally aware.
You're already ahead of the game. So make something happen to make the environment better around you. To find out how, look on the back of this booklet. Then pass this booklet on to a friend.

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This valuable ecology teaching tool is funded by a grant from McDonald's local restaurants across the country, and Ronald McDonald Children's Charities, established in 1984 to help children live better lives.

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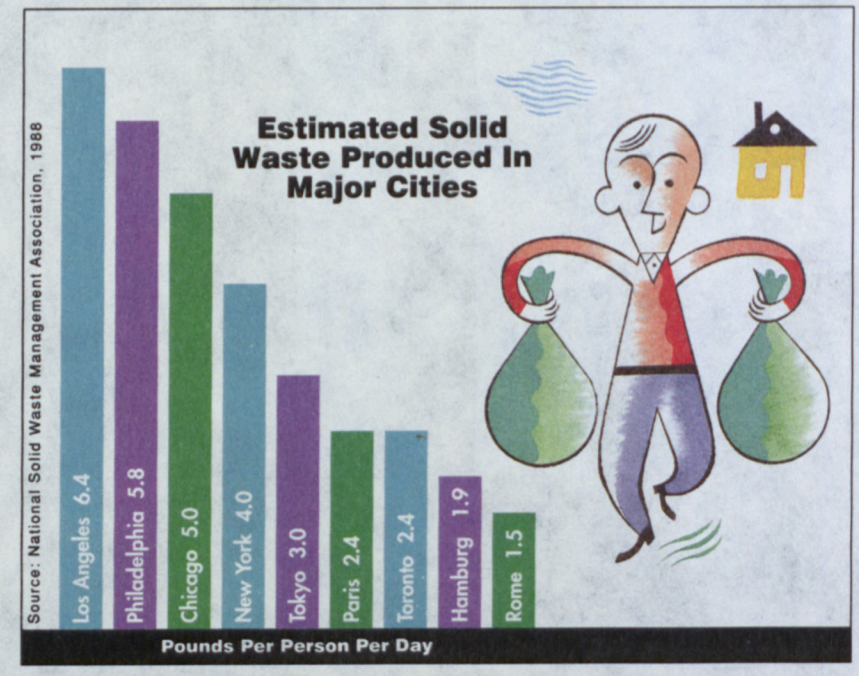


Garbage Galore!

Americans produce an average of twice the solid waste per person as Europeans. Students at the Hidden Villa Ranch in Los Altos, California, are working to change that statistic. They compete to see who has the least garbage when they're finished with lunch.

You can help change that statistic, too. Here are a few simple ways you can tackle garbage.

o Write on both sides of paper.

o Use the back sides of old mail for scratch paper.

o Donate clothes, books, toys, and other goods you no longer want or need to a local charity for someone else to use.

state can't force the power company in another state to change its ways, the acid rain problem has only gotten worse.

Here's another way to look at this long-distance pollution problem. It's as if people just put all their trash in the back of their cars, drove it across the border into another state, and dumped it. This may not seem like much of a problem—until people from the other state start bringing *their* garbage to the first state. We're only slowly beginning to realize that we live on a single planet and that the chemicals floating through the air don't care about borders.

Global Pollution

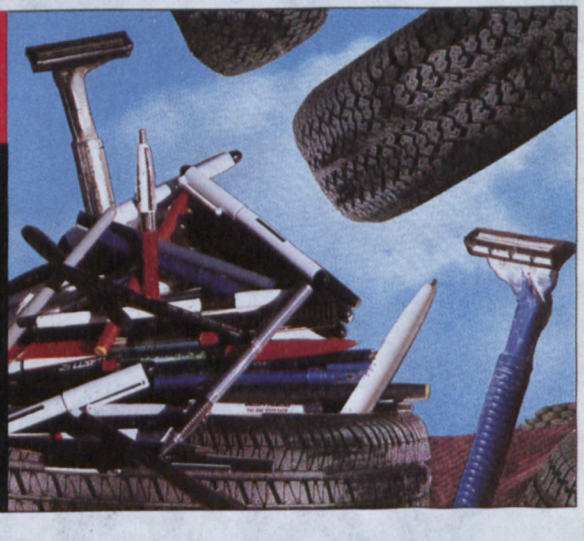
Acid rain was just the start of long-distance pollution. Now we face a kind of pollution that can change the whole world at once—global pollution. The best example of this may turn out to be so powerful that it could change almost all of nature in your lifetime. It is what scientists call the greenhouse effect.

The temperature of the Earth depends on how much warmth it gets from the sun. Some of the gases and vapors in our atmosphere act like a giant blanket and trap the sun's warmth. If the atmosphere didn't trap enough of that warmth, the Earth might be too cold for many forms of life. But if it trapped too much, our planet could get to be as hot as Venus—a toasty 900 degrees Fahrenheit.

One of the most important of these heat-trapping gases is carbon dioxide. There has always been carbon dioxide in the atmosphere—it comes from natural sources such as volcanoes, fires, and the breathing of animals. Of course, carbon dioxide is essential for life on earth. All growing plants take in carbon dioxide and give off oxygen. But, as with all good things, enough is enough and too much can be a problem. Over the last few hundred years, people's activities have dramatically increased the amount of carbon dioide in the atmosphere, mostly through the burning of fossil fuels—coal, gas, and oil. The burning of rain forests in South America may also add to the greenhouse effect. The burning gives off carbon diox-

Not So Fun Facts

Each year, Americans throw away 1.6 billion pens, 2 billion razors and blades, and 220 million tires.



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Garbage Is History

What does garbage have to do with archaeology? According to Dr. William Rathje, an archaeologist at the University of Arizona, lots. Dr. Rathje says that most of what archaeologists dig up "is garbage left by ancient cultures." So when Dr. Rathje wanted to show his students the connection between a culture's garbage and its behavior, there was only one place to take them—to a landfill. "I just decided to use garbage that was fresh instead of ancient," Dr. Rathje says.

The archaeologist says that in his digs he finds more paper than anything else. He also finds a lot of hot dogs. "We find more dogs than any other food," Dr. Rathje says. "It's all the preservatives in them. If you want to last for a long time, just eat a lot of hot dogs—you'll never decompose."

A Wild Idea

Would you like a white-crested laughing thrush, a cinnamon tarantula, or a pygmy hippo to call your own? Then adopt one! Zoos have adopt-an-animal programs which allow you to adopt animals for a small sum of money.

Your contribution may buy food, improve habitats, help support special breeding programs for endangered animals.

Find out about programs in your area. write to the American Assn. of Zoological Parks and Aquariums, 4550 Montgomery Ave., Suite 940N, Bethesda, MD 20814.

ide, and the loss of trees removes a major way of changing carbon dioxide to oxygen.

You can see the problem: The more carbon dioxide released in the atmosphere, the more warmth trapped from the sun. Some scientists are afraid that this will cause the Earth's temperature to rise.

Endless Summer

When you first hear about it, the possibility of global warming may not seem so bad. Shorter winters, more beach days—who would mind? But a quick increase in the Earth's temperature could cause many problems.

One of these would be a rise in the level of the oceans. If northern glaciers and polar ice start to melt, the level of the oceans could rise several feet. Some islands might just disappear. Many of the marshes along the U.S. seashore would be flooded, and the animals that live in them would die.

An increase in the Earth's temperature could also make farming much harder. If it gets too hot, some plants just won't grow. In the hot summer of 1988, American farmers grew 31 percent less corn for grain than in 1987.

None of these things is *certain* to happen. Scientists still don't know exactly how the extra carbon dioxide in the atmosphere will affect the weather. But some large changes are possible—and not in the distant future. The natural world may change more in your lifetime than it has in the history of man.

"Public lands aren't like pizzas. You can't call up and order more."

ALF, Alien

"It is important to support our natural environment and wildlife, because our future lies in the balance of both."

Cindi Lauper, Musician

Not So Fun Facts

A million plant and animal species in the tropical rain forest could be extinct by the end of the century.

Only 625,000 African elephants roam the continent today—a reduction of more than 50 percent in the past 10 years.

Americans toss out a total of 160 million tons of garbage each year—enough to spread 30 stories high over 1,000 football fields, enough to fill a bumper-to-bumper convoy of garbage trucks halfway to the moon.

Cat Running Out Of Lives

The margay needs nine lives. This endangered feline is losing its home to deforestation *and at the same time* being hunted by poachers for its fur.

World Wildlife Fund, which keeps track of trade in wildlife and wildlife products, estimates that thousands of margays have been killed for their skins, which are made into fur coats and hats.

Learn more about endangered species by visiting your local zoo or aquarium. Many zoos have special programs for students.

Fun Facts

- **Recycling one aluminum can saves enough energy to run a TV for three hours.**
- **For each ton of paper recycled, 3,700 pounds of lumber and 24,000 gallons of water are saved.**

Time For A Change

It will be very hard to change our lives enough to prevent global air pollution. Carbon dioxide comes from things we do every day, like driving cars. A gallon of gasoline weighs eight pounds. If you burn it in the engine of a car it releases more than five pounds of carbon in the form of carbon dioxide. If the furnace in your home clicks on in the night to keep you warm, it gives off carbon dioxide. Even your gas stove gives off carbon dioxide.

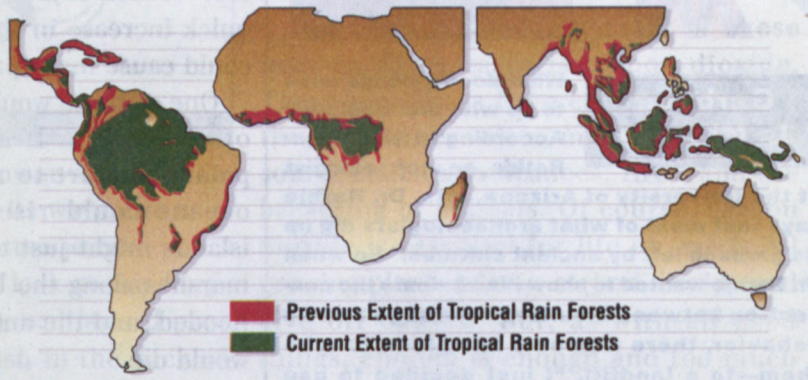
New kinds of cars and furnaces that run on solar power or wind power or some other kind of renewable energy will help conserve scarce fuel and reduce the amounts of pollutants being released into our air, land, and water. But while we are waiting for those kinds of things to come along, we need to use less gas and oil and coal. It's true that we probably can't give up cars altogether—but we can use them less. People could walk and bike many more places than they do right now. They could carpool or take buses and trains. They could drive small cars which use less gas.

The biggest trouble with most air pollutants is that they are invisible. That makes it difficult to see how dangerous they are. When an oil tanker runs aground and spills its cargo into the ocean, everyone can see the oozing black blot. They can see the animals who get caught in the sticky mess and die, and the beaches that have become coated with tar. But if that oil reached the refinery safely, and was made into gasoline, and burned in car engines, it would release large amounts of air pollutants that

The Vanishing Rain Forests

Every 15 minutes, more than one square mile of tropical rain forest is burned or bulldozed. People want the land for farming or other development. Many scientists are worried, though, about the effect this destruction is having on the environment. First, eliminating the rain forest wipes out entire species of plants and animals. Second, deforestation may also lead to increased global warming.

For every acre that is burned, thousands of trees are destroyed. Had these trees remained alive, they would have taken a lot of carbon dioxide, one of the major greenhouse gases,



Source: Tropical Rainforests: A Disappearing Treasure (Smithsonian Institution, Washington, D.C., Traveling Exhibition Service, 1988).

out of the atmosphere. In fact, the average rain forest tree gobbles up an average of 50 pounds of carbon dioxide a year—as much as 30 pounds more than trees growing in other climates. And, in addition to losing these trees' carbon-eating capabilities, burning trees releases carbon dioxide into the atmosphere. The Amazon rain forest alone stores at least 75 billion tons of carbon in its trees.

What can you do to help save the rain forest? Students at the Whispering Pines Elementary School in Miami, Florida, performed plays about the rain forest and worked with local senior citizens to bake bread and pot plants for sales. Another group of students at Griffin School in Oakville, Connecticut, gave tours of a model rain forest they had built to educate parents and other students. Both groups donated money to help save the rain forest in Costa Rica. World Wildlife Fund has been helping to save rain forests around the world since 1961. For more information on tropical rain forests, you can write to World Wildlife Fund, Dept. ZB33, 1250 24th St. N.W., Washington, D.C. 20037.

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couldn't be seen. Over time, such invisible pollutants may affect the world even more than the visible oil spill.

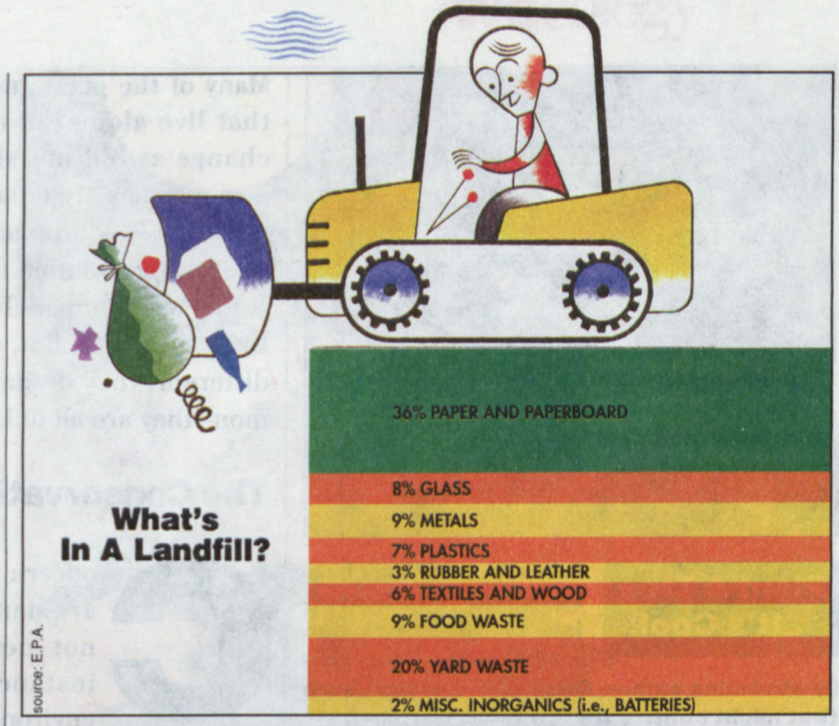
Look Around You

Local, long distance, and global pollution all harm the planet at the same time. To see them working together, consider a small patch of trees. It may be in the woods, in a park, or along the street.

You can obviously pollute the stand of trees by dropping a soda can there, or by scratching your name into a tree trunk. That's local pollution, and it's easy enough to stop. No one *needs* to litter. In fact, it's easy to do just the opposite—you could take a bag and clean up a small woods in a single afternoon.

That same stand of trees can also be affected by acid rain or by other long-distance pollutants. Acid rain weakens a tree, making it less able to resist harmful insects and diseases.

Global pollution, such as the greenhouse effect, could have disastrous effects on that stand of trees. Trees live where they do because of the climate. If the temperature rises, those trees will need to live much further north. But trees can't move—they're rooted to the ground. And so they may wither and die.



Or consider a stretch of seashore. A couple of summers ago all sorts of trash began to wash up on beaches along the East Coast. Some of it was dangerous medical waste dumped illegally. Most of it was garbage that wouldn't have killed you, but it sort of took the fun out of a day at the beach when someone's dinner washed in with the tide.

But water is also polluted by less obvious things. When rain falls on a farmer's field, for instance, it can wash animal waste and the remains of fertilizer down to lakes or the sea. These wastes nourish all sorts of algae. This algae, in turn, can choke off the oxygen that fish need to survive. Many lakes have "died" this way.

And if the climate begins to change, the seashore may not even be in the same place.

Not So Fun Facts

Every year, Americans throw out 24 million tons of leaves, grass clippings, and other yard waste.

A Look At Landfills

In the U.S., 80 percent of solid waste is dumped into 6,000 landfills. How does this system of waste disposal work? Wastes are brought to a landfill that is usually lined to prevent contamination of ground water. Waste is packed firmly together by tractors then covered with layers of dirt. Well-operated landfills are dry, dark, and airless. In such conditions, materials that normally degrade remain intact for years. For example, one university's researchers dug up a 10-year-old landfill, and found grass clippings that were still green, bread that hadn't molded, and newspapers with headlines that could still be read.

Plant A Tree ...It's Cool!

Trees do more than help keep you cool. Scientists say that trees also help keep the Earth cool by absorbing carbon dioxide, one of the gases that might contribute to global warming.

You can keep cool and be cool by joining a national effort under way to plant 500 million trees by 1992. Thousands of students are already participating in this effort. In Burnell, Florida, a 4-H group is ready to plant 50 trees it raised from seed. Hundreds of students in Chicago, Illinois, have collected enough money to purchase 62 large trees.

Join or start a tree-planting program in your area. Write to American Forestry Assn., Global Releaf, P.O. Box 2000, Washington, D.C. 20013.

Pens Against Pollution

Here are several ways you can help "write" some environmental wrongs. (Use recycled paper whenever possible.)

- Write to government officials—from local leaders to the President—telling your concerns about the environment.
- Write to the chairmen of companies. Ask them if they can make their products from recycled or recyclable materials.
- Write to environmental groups to see what you can do to help.
- Write for your school paper about pollution.
- Write to your local paper, TV, and radio stations, and ask them to print or broadcast stories about environmental issues.

Many of the plant and animal populations that live along the edge of the sea may change as old marshes are flooded and new marshes are created.

As you look around you, you can see the many ways pollution is changing our Earth. It may seem impossible to begin solving all these problems. But, while they are all very different, they do have one thing in common—they are all linked to the way we live.

The Conservation Movement

Concern about the way people are damaging the planet is not new. In America, for instance, one of the first environmentalists was Henry David Thoreau, who lived nearly 150 years ago. Thoreau spent several years living in a small hut on the shore of an isolated pond. He wrote a famous book, *Walden*, about this experience. In his book, Thoreau recommended that men and women learn to live more simply. While Thoreau's book was praised by many people, few actually followed his advice.

One hundred years ago, a man named John Muir helped launch the first major conservation movement. He urged that Americans set aside some parts of the country so that they would never be logged or farmed. The place he cared about most was the Yosemite Valley in California, which became one of our first national parks. The U.S. government continues to set aside certain parcels of land, some as parks and some as wilderness.

In the last few decades, the conservation movement began to change. People began to realize that it is not enough just to set aside chunks of land. Problems like acid rain have convinced people that it does little good to save particular forests if the entire planet's environment is in danger. One woman who helped us understand this

Bat Salad

Most of the ingredients in this salad come from plants that are helped by bats. Bats, as plant pollinators and seed dispersers, are an integral part of tropical rain forest communities.

DRESSING

1 cup orange juice*
2 tablespoons honey*
Pinch of ground cloves

SALAD

4 medium peaches
3 medium bananas
1 small avocado
1 mango
1 guava
1 cup dried figs
1 cup roasted unsalted cashew nuts, coarsely chopped

In a large bowl combine the orange juice, honey, and cloves. Stir well. Cut the fruits into bite-size pieces and stir them into the orange juice mixture. Just before serving, sprinkle with cashews. Serves 10.

Note: Substitute your favorite fruits or nuts if any of the above are not available.

*Not pollinated by bats.

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was Rachel Carson. She wrote a book in the 1960s called *Silent Spring* about the dangers of the chemical DDT. This chemical was sprayed to control mosquitoes and other insects, but it also thinned the eggshells of many bird species so that their young could not hatch. The chemical has since been banned in the U.S. though we still produce other dangerous chemicals.

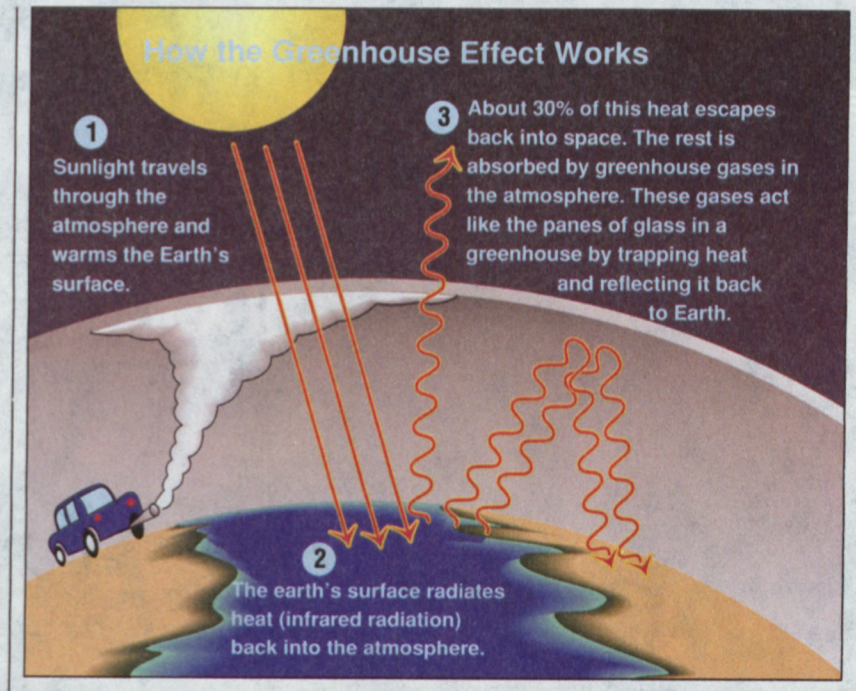
Now people fight for the environment in a number of different ways. Some write letters to politicians, or run for office. Others try to get new laws passed. Some of the well-known environmental groups in the U.S. include World Wildlife Fund, the Wilderness Society, the Sierra Club, and the National Audubon Society. These groups lobby federal and state governments for policies to protect the environment and educate the public about the environment, among other things.

There is some debate about the work of environmentalists. Many political leaders say these people care more about animals or forests than they do about people who need to earn their living by logging or fishing. Environmentalists say that protecting the health of the planet will help us all.

There are hard questions to be answered. For example, people use oil to power everything from cars to home furnaces. But that oil has to be drilled somewhere. Oil drilling creates pollution. Can people have fuel without creating pollution? This is the type of question environmentalists, and others, try to answer.

Despite the work of many people, each year the health of our earth gets worse. We use more and more resources and release more and more pollution. This leads to the question of what you can do to help the planet.

Wecology is filled with lots of suggestions, but they all depend on you. Unless you are willing to work at saving the environment, it will probably keep getting worse. But if you choose to care about the planet, you could leave the world greener than you found it.


How the Greenhouse Effect Works
1
Sunlight travels through the atmosphere and warms the Earth's surface.
2
The earth's surface radiates heat (infrared radiation) back into the atmosphere.
3
About 30% of this heat escapes back into space. The rest is absorbed by greenhouse gases in the atmosphere. These gases act like the panes of glass in a greenhouse by trapping heat and reflecting it back to Earth.

The Greenhouse Effect

This diagram shows how carbon dioxide and other gases act like a greenhouse in Earth's atmosphere. Forest fires and volcanic explosions produce some of these gases naturally. But people, by burning fossil fuels—oil, coal, and gas—are producing an increasing amount of greenhouse gases. Some scientists are worried that this increase in greenhouse gases may cause Earth to get warmer. The results of a global warming could range from coastal flooding, as polar icecaps melt and cause sea levels to rise, to a northward shift of Earth's farmbelts.

Fun Facts

Robins, orioles, and other birds are natural recyclers. They sometimes use bits of thread, string, and paper to build their nests.

LEARN ABOUT THE ENVIRONMENT. Sign up for classes. Ask your teacher to include environmental studies in your science and social studies classes. Form a student group in your school, or join one.

FIND OUT WHAT'S GOING ON WHERE YOU LIVE. Ask around. Look for articles on the environment in the newspaper, and watch the TV news or listen to the radio for local stories. Get your mom and dad involved. Even call your local officials to see if your community has a recycling program.

JOIN A GROUP CONCERNED WITH THE ENVIRONMENT. Maybe you don't think of yourself as a 'joiner.' But cleaning up the environment is going to take everybody working together. More volunteers are always needed.

GET STARTED. Do something today. Just one thing. Start with one of the suggestions in this booklet. Then just once a week, add another thing. What you do will make a difference.

Wecology is made possible in part by your local McDonald's® Restaurants.

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THE ENVIRONMENT

How on Earth can you do something about it?

People

And the Winners Are...

Each year since 1952, state teachers of the year have competed for the honor of becoming National Teacher of the Year. Next month one of the four finalists (all NEA members) pictured on these pages will be chosen the 1990 National Teacher of the Year.

The 1989 Teacher of the Year, Mary Bicouvaris, a Hampton, Va., high school social studies teacher, continues to travel the world as education's ambassador. This month she'll be visiting the Soviet Union.

"It's been a wonderful experience for me to be able to speak on behalf of teachers," notes Bicouvaris. "I'm encouraged by the attention education is getting—but I'm also concerned that some of the reforms may be just cosmetic."

The national competition is sponsored by *Good Housekeeping*, the Council of Chief State School Officers, and *Encyclopaedia Britannica*. The 1990 National Teacher of the Year will be announced at White House ceremonies in early April.

1990 STATE TEACHERS OF THE YEAR

Alabama: Susan Lloyd, fourth grade

Alaska: David Schwantes, fourth grade

American Samoa: Bessie Manase, middle school English (reading)

Arizona: Rachel Moreno, high school Spanish

Arkansas: Jan Scholl, high school Spanish

California: Janis Gabay, high school English

Colorado: Roberta Ford, seventh grade English

Connecticut: Charles Zezulka, junior high school reading

Delaware: Timothy Young, junior high school social studies

Department of Defense Dependents Schools: Pamela Barney, high school English & social studies

Florida: Theresa Noonan, high school social studies

Georgia: Molly Howard, special education, all grades

Hawaii: Alice Yukiko Kotake, high school English & social studies

Idaho: J. Michael Hovey, high school economics & marketing

Illinois: Joyce Carey, second & third grade

Indiana: Mary Baker, adapted physical education

Iowa: Pamela Johnson, sixth grade

Kansas: Barbara Firestone, fifth grade

Kentucky: Barbara Hester, high school art

Louisiana: Debbie Pace, sixth grade science

Maine: Bill Nave, secondary & postsecondary alternative education

Maryland: Anne Neidhardt, high school science

Bob Riha, Jr.

Janis Gabay: Theater's Loss, Education's Gain

As a child, Janis Gabay wanted to be "the great American playwright." Instead, she grew up to be a great American teacher—and California's 1990 Teacher of the Year—passing on her love of writing to students and colleagues.

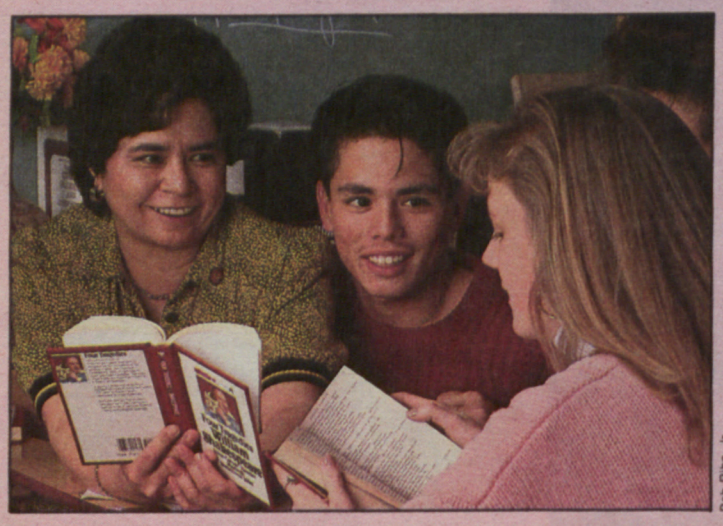
At San Diego's Junipero Serra High School, Gabay teaches tenth and twelfth grade English and serves as adviser to the school's magazine, *La Pluma*. She also oversees a program where students review—for pay—the latest books for children and young adults. Gabay organized the program in 1983, when *The San Diego Union* needed new reviewers and asked language arts teachers in the district for help.

"We get the books each fall, and the kids have their reviews ready to go to press in time for readers to do their Christmas shopping," says Gabay.

Six years ago, Gabay used grant money to initiate a writer's forum where teachers at her school—no matter what subject they taught—could address their concerns about writing. As a result, all the teachers at Serra High meet several times a year to evaluate students' writing and their own. Many of these manuscripts are then published in *La Pluma*.

To inspire her students' writing, Gabay encourages them to go out into the surrounding community. In that ethnically and economically diverse setting, they study the people, buildings, animals, landscape—whatever they see. The results, says Gabay, are often rich, realistic character descriptions, stories, and poems.

"Education affects me as a whole person," says Gabay, but that doesn't mean schoolwork consumes all her time. She also does volunteer work at her church and the local art museum.



Bob Riha, Jr.

Gordon Chibroski

Bill Nave: How To Build a School

To set up a school, you start with four questions, says Bill Nave, Maine's 1990 Teacher of the Year. They're the questions he and Mark Bechtel asked when they set up the River Valley Alternative School in a rural school district west of Augusta.

- ► What are the needs of our students?
- ► What does research say helps kids like ours?
- ► What assets do we have?
- ► How can we use them to meet our kids' needs?

The Alternative School draws in young people who have already dropped out of school—the kinds of kids Nave has worked with since he was in college. As a physics major at New York's Columbia University, he volunteered in a neighborhood program for "tough" youngsters. "We made them

Massachusetts: Molly Murphy, elementary visual arts/integrated curriculum

Michigan: Cynthia Broad, elementary special education

Minnesota: James Ellingson, fourth grade

Mississippi: J. P. Luby, secondary English, journalism, drama, gifted

Missouri: Molly Hankins, junior high school social studies & IMPACT (gifted & talented)

Montana: Carolyn Baldwin, kindergarten

Nebraska: Duane Obermier, high school journalism

Nevada: John Snyder, high school computer science

New Hampshire: Barbara Prentiss, third grade

New Jersey: Nina Fue, fourth grade

New Mexico: Judith Crawford, fifth grade

New York: Fred Gilliam, high school biology

North Carolina: Sandra Rogers, primary school language arts

North Dakota: John O'Connor, high school chemistry & physics

Ohio: Ann Haley-Oliphant, high school biology

Oklahoma: R. Eugene Earsom, high school government

Oregon: Stuart Perlmeter, junior high school science & biology

Pennsylvania: Howard Selekman, comprehensive eighth grade English

Rhode Island: Leonard DeAngelis, high school English

South Carolina: Maria McAlister Pyles, tenth grade social studies

South Dakota: Carole Kasen, elementary resource

Tennessee: Geraldine Hawes, high school English & speech

Texas: Mercedes Bonner, seventh grade language arts

Utah: Marilyn Grondel, sixth grade

Vermont: David Ely, high school biology

Virginia: Gloria Anderson, first grade

Washington: Richard Feutz, junior high school science

West Virginia: Jolanda Cannon, fourth grade

Wisconsin: Lee Schmitt, ninth grade science

Wyoming: Roderick Laird, intermediate gifted and talented

Edward McCain

Rachel Moreno: All in "La Familia"

In Rachel Moreno's Spanish classes at Flowing Wells High School outside Tucson, Ariz., every student has three "primos" (cousins). Together they form a "familia." Familia members, Moreno says, "sit together, rejoice together, support one another." Arizona's 1990 Teacher of the Year believes kids learn better with a support system.

The focus on "la familia" is a reverberation from Moreno's earlier career teaching home ec (she switched to Spanish just four years ago).

"Home economics focuses on the family—plus I can't stand a classroom where the kids don't know one another," she explains.

"If I touch kids' hearts in some way," she adds, "then I'm doing what I'm supposed to. And they in their turn will do something similar for someone else."

To teach Spanish culture as well as language to her mostly non-Hispanic students, Moreno uses an activity-based cultural approach. The biggest activity is a two-way student exchange with a Mexican community in the state of Sonora.

Every spring 40 Flowing Wells students go to Sonora for a four-day exchange. They stay with families in five villages where the children attend a vocational agriculture school. Two weeks later, the Mexican students come to Arizona.

"La familia" is a theme in Sonora, too. "For some of my students, their Mexican family is the most real family they've seen in a long time," Moreno says. "And they don't want to leave it."

In the last year Moreno's cultural emphasis has shifted a bit from Mexican and Mexican-American to Spanish. In 1989 she traveled to Spain as a recipient of a King Juan Carlos Fellowship honoring the Quincentennial of the Kingdom of Spain.

Gaston Chibaudi

counselors for younger kids," says Nave.

Nave's life changed when he saw an ad calling for 10,000 teachers. By fall of 1968 he was teaching science in the embattled Ocean Hill-Brownsville area of Brooklyn; he later moved to a racially mixed, racially tense Long Island junior high.

In 1972 Nave began teaching in Auburn, Maine. Four years later, he was asked to set up a school-within-a-school for students likely to drop out. In 1986 came the chance to start a whole school.

The day at River Valley Alternative runs from 7:30 a.m. to 9 p.m. (3 p.m. on Fridays); the 60 students attend on the schedule that best suits their working and parenting day. Each sets a goal for the next five years and designs an individual program to move toward that goal.

The three teachers, notes Nave, aim to make sure every interaction with students raises self-esteem: "That's a much more accurate predictor of success than IQ or mother's educational attainment—and it's also something we can change."

Maria Pyles: No End to Learning

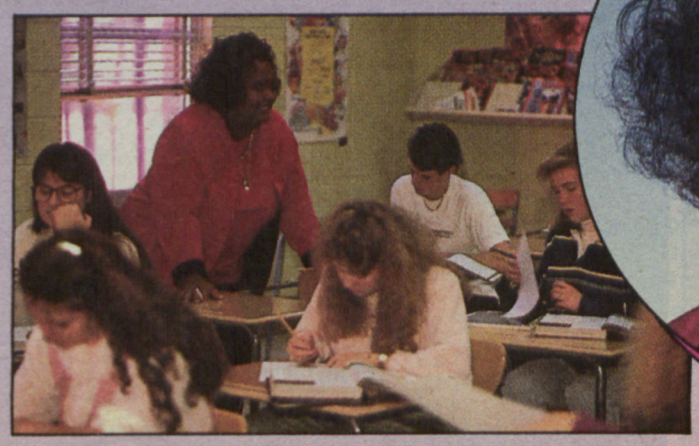
Maria McAlister Pyles has devoted the last quarter-century to an active pursuit of professional enrichment activities. Always seeking ways to inspire and stimulate her students, South Carolina's 1990 Teacher of the Year has designed a program of study that helps her achieve the high standards she sets for herself and her students.

Pyles' search for greater effectiveness began when she started teaching in Greenwood, S.C., in 1963. Encouraged by her principal, she got grants over the next two decades to study at 17 university institutes. Pyles made it the goal of her instruction to teach students to live in a multiethnic, multicultural, pluralistic society. "If education doesn't democratize and sensitize students, then we as teachers aren't doing our job," she asserts.

In 1984, a Fulbright Fellowship took Pyles to Egypt and Israel for study and travel.

Two years ago, Pyles established a Youth in Government club and introduced its members to the art of debate and the tasks of lawmaking. As a follow-up in November, her students took part in a mock state legislature where they practiced legislative techniques.

Her goals as South Carolina's Teacher of the Year? "To be a role model for students by showing that hard work pays off, and that the great equalizer will always be education."



Frank Pearce

DATA BANK

Higher Pay, Fewer Jobs

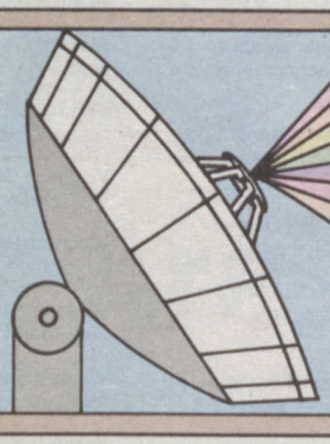
Position	1990 Salary	Percent Increase Over 1989 Salary
Journalism	$18,255	1.3%
Education	20,650	2.3
Telecommunications	20,880	1.3
Business administration	21,845	2.4
Marketing/sales	24,100	2.3
Accounting	27,051	2.9
Nursing	27,358	1.4
Physics	28,777	1.7
Computer science	31,389	2.7
Chemical engineering	33,380	3.0

Source: Michigan State University Career Development and Placement Services

Employers say they'll hire 13.3 percent fewer new college graduates in 1990 than in 1989—but pay them more. A sampling of estimated starting salaries for those with new bachelor's degrees.

Learning Via Satellite

The Congressional Office of Technology Assessment reports that in 1988-89 U.S. K-12 students were offered 350 courses via satellite or other telecommunications link. Here's the breakdown by subject.



Foreign languages	119
Mathematics and science	110
Humanities (English, art, composition)	69
Political science and history	19
Business and economics	16
Vocational education	9
Social studies	8

Child Poverty

These jurisdictions have the lowest—and the highest—child poverty rates in the nation.

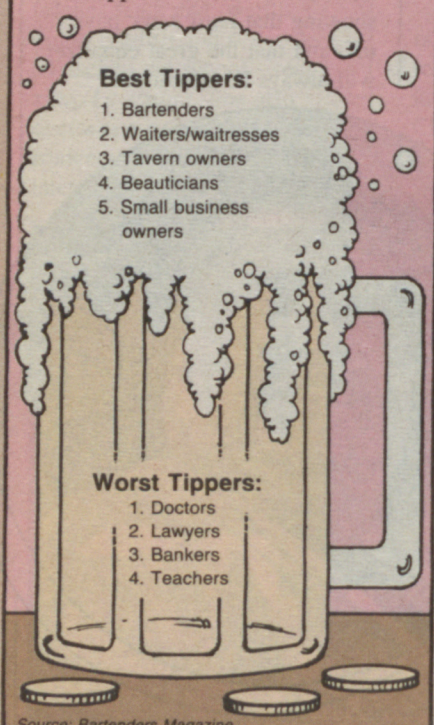
State	Rank	Percent*
New Hampshire	1	6.2
Connecticut	2	11.8
Alaska	3	12.7
Maryland	4	13.0
Utah	5	13.2
Arkansas	46	29.0
West Virginia	47	30.4
Louisiana	48	30.6
D.C.	49	31.3
Alabama	50	31.7

*Percent of state's youth population (under 18) living in poverty.

Source: Children's Defense Fund

Teachers as Tippers

A survey of bartenders gives us good news: Teachers aren't spending their spare time befriending bartenders. And bad news: bartenders say teachers are among the worst tippers.



Source: Bartenders Magazine

If success is measured by college degrees, your students can do well in the Army. We offer a number of services and programs that offer soldiers an opportunity to pursue just about any degree they want.

Army Education Centers. Nearly every Army post has an Education Center where trained counselors advise soldiers about the courses they need, and where to take them, and how to pay for them.

Independent Study. This "university without walls" program permits soldiers to earn college credits by studying on their own.

Non-Traditional Credit. In some cases, soldiers can use their military training, experience and schooling to obtain college credits.

Tuition Assistance/Financial Aid. Any new soldier may be eligible to have part of his or her tuition paid by the Army.

Additionally, the Montgomery GI Bill Plus the Army College Fund can offer as much as $25,200 toward continuing education, for qualified soldiers.

Of course, in addition to the educational benefits, the Army also offers your students some other valuable lessons about character and discipline. Lessons that will lead to success not just in college, but in life.

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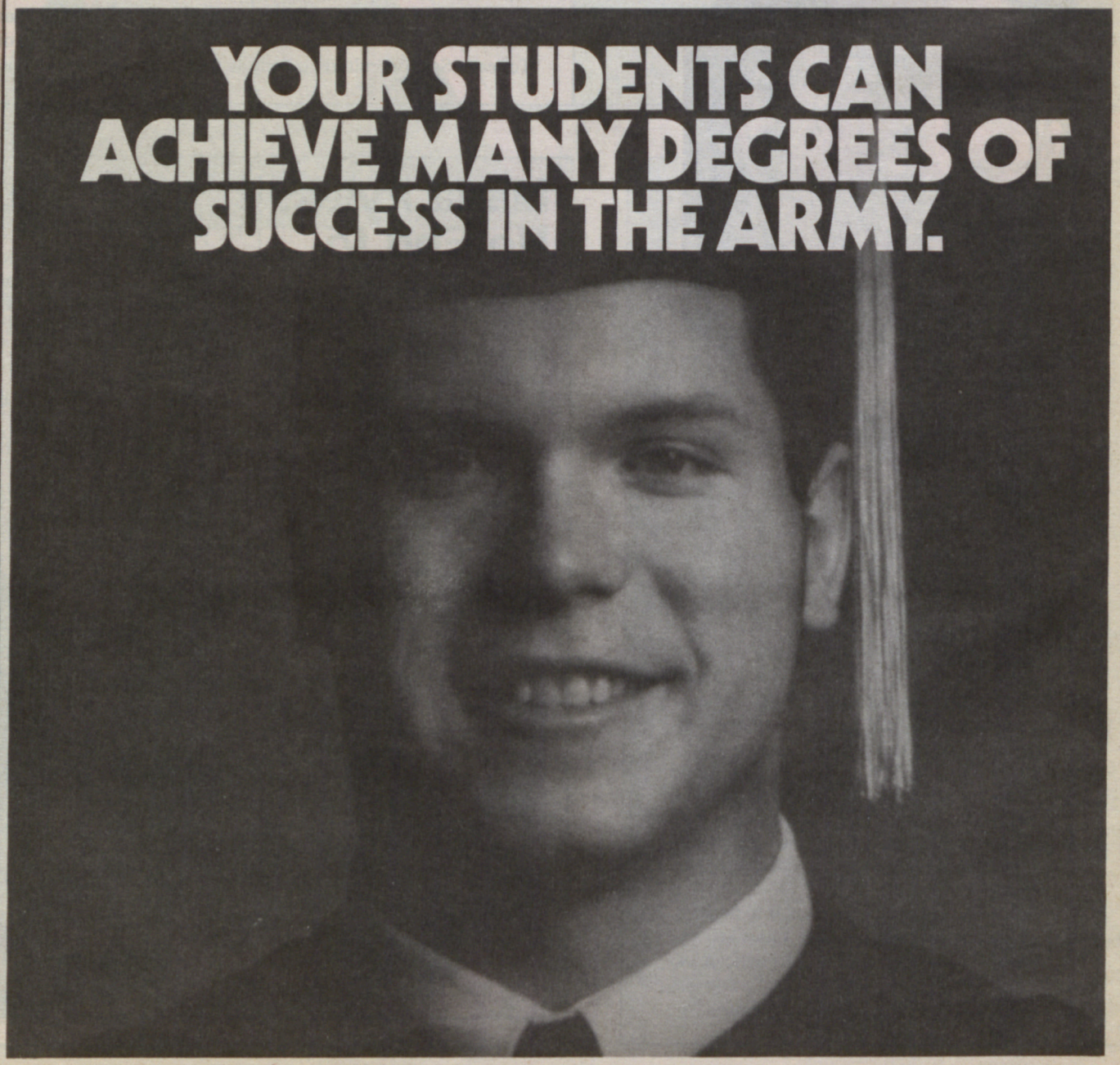


Innovation

How NEA members are changing the way schools work.

In Ohio

Community Changes The Odds

For students in the all-Black district of East Cleveland, Ohio, the odds of becoming a scientist or engineer were always slim.

Today those odds have been shortened, thanks to an innovative project created by district administrators and members of the East Cleveland Education Association.

The East Cleveland Schools' Math and Science Enrichment Center was set up in 1987 to address the critical shortage of women and minorities in math and science fields. The idea behind the project was simple. By developing engaging and intensive lab activities for K-8 students, the educators felt they would cultivate a desire for higher-level math and science studies in high school and beyond, ultimately creating opportunities for successful careers in math and science.

"We realized we couldn't wait until students were in the ninth or tenth grade to interest them in science and math careers. It's already too late," says Association member Cary Seidman, who directs the enrichment center.

"By basing science and math on discovery and activities, we're showing our kids that these areas are fun—and offer possible careers."

Three times a day, students from elementary schools all over the district file into the basement of the East Cleveland Public Library, where the center is located. For one hour, they work on experiments that explain everything from static electricity to human physiology.

"We want students to solve problems in science by looking through microscopes, playing with gyroscopes, and working with telescopes," says Seidman. "They not only enjoy it—they start expecting all their instruction to be discovery-based. This challenges their teachers as well."

East Cleveland educators, too, can take advantage of what the Math and Science Enrichment Center has to offer. Besides participating with their classes, teachers may take one of the many inservice courses the center offers each month.

"Science used to be one of my weaker areas," says Debra Branche, a fourth grade teacher at Chambers Elementary School. "Through these workshops, I learn new ways of teaching my students about electricity, for example, and I strengthen my own knowledge of the subject. That opens up new doors for me and my students."

Seidman agrees: "Elementary teachers generally don't like to have their students do something they themselves don't know how to do. Because of what they've learned from inservice classes, teachers have increased hands-on science lessons across the district."

Educators can borrow equipment from the science center—everything from magnets to microscopes. "We bought our equipment for the express purpose of lending it out to East Cleveland teachers," says Seidman. "That way, every classroom becomes a center for discovery."

How do parents react to the center? "They love it," says Seidman. "Every Wednesday night is family night—students and their parents can participate in an experiment or in independent exploration."

Parents at one school decided to use the center to help coach the students for the regional science olympiad. "The students did very well," says Seidman. "Before, it was unheard-of to have a school from a low-income area take part, let alone do well."

The achievements of the center and its creators haven't gone unnoticed. This year, the project—and the East Bristol, R.I., project described below—were two of the nine winners of NEA's A+ Award (see page 26 for a complete list of award winners).

—Anita Merina

Joe Glick

The look of discovery: students from East Cleveland, Ohio's Mayfair Elementary School react to an experiment by science teacher Cary Seidman.

In Rhode Island

Developing Active Learners

"We assume students know how to take notes and study," says Elizabeth Brito of Bristol, R.I., "but even if they do, they're often very passive learners.

"We want to make them active learners. We want to get out from in front of the classroom and say, 'You're in charge.'"

Brito chairs the English department at Bristol High School. She's also among the 25 or so faculty members—about a fourth of the total—working on the school's Teaching-Learning-Skills (TLS) program. Begun in 1985, TLS mobilizes teachers to cull teaching and learning strategies from research and pass them on to colleagues—or directly to students.

The main thrust of TLS is to give students responsibility for learning—and the skills to do it, from understanding texts better to solving problems effectively.

TLS task force members come from every department in the school. In theory, they give one period a week to study and planning. In practice, "it takes much longer. It takes commitment," says Brito.

The Task Force works through four bodies:

► A strategies research and development committee develops ways to present curricular material in a variety of ways so students can learn it better. This committee also develops learning strategies for students.

► A public awareness committee publishes a twice-monthly column for parents or students in the local paper. Topics range from organizing a notebook to organizing time. This committee also publishes an in-house newsletter on research and the task force's work.

► A faculty outreach committee disseminates articles and other materials and addresses the faculty at a principal's meeting each month.

► A testing committee is studying ways to evaluate students; eventually it may design some new kinds of tests.

"One of our major hopes," says Brito, "is that students will be empowered to learn. Take one teacher who was totally opposed to subgrouping: She wanted to control the whole room. Now she's got her students doing peer tutoring, and they're initiating their own learning.

"We focus on process: how students arrive at information. We use graphics to show students how to take apart a piece of information, for instance, so they can get a grip on it."

"I work a lot with students who haven't made it in the classroom," says psychologist Pam Geary. "Now I'm seeing some of them making it for the first time. And TLS seems to help teachers become more sensitive to the needs of their students."

Geary sees two results of the program: "For some kids, school has become a more pleasant place to be, because they're having some success here. And because the students are becoming active instead of passive learners, teachers are seeing more successes, too."

TLS is spreading beyond Bristol High. A group of teachers of grades 4 through 7 has gotten involved in the program; by 1991 the TLS organizers hope the program will reach every grade level.

—Jane Power

INTERNATIONAL

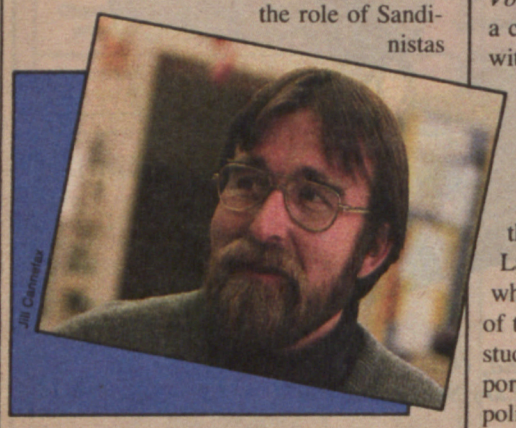
STUDENTS DISCOVER NICARAGUA

By Bill Bigelow

"They ought to be killed! Think what they did to us before the revolution."

"What would that solve—to show we can be as cruel as Somoza?"

The two students are playing the role of Sandinistas just after the 1979 Nicaraguan revolution overthrew dictator Anastasio Somoza.



In the lesson, students wrestle with the policy dilemmas that challenged the young Sandinista government. What should happen to captured members of the hated National Guard? All of Somoza's property fell into the hands of the new government: Who should own it now?

These days, depending on who's talking, the Sandinistas have created either a "totalitarian dungeon" or a more just society that benefits the poor. Through role play, my students explore the social context inherited by the Sandinistas and, with luck, are better able to evaluate the accomplishments and shortcomings of the 10-year-old revolution.

The lesson is included in *Inside the Volcano: A Curriculum on Nicaragua*, a compilation of lessons I've edited with fellow Portland, Oregon, high school teacher Jeff Edmundson.

But why bother to teach about tiny Nicaragua? What's the big deal?

Buried in Nicaragua's history is the story of U.S. relations with all of Latin America. And probing how and why Nicaragua was a thorn in the side of the Reagan Administration offers students a window into the contemporary objectives of U.S. foreign policy.

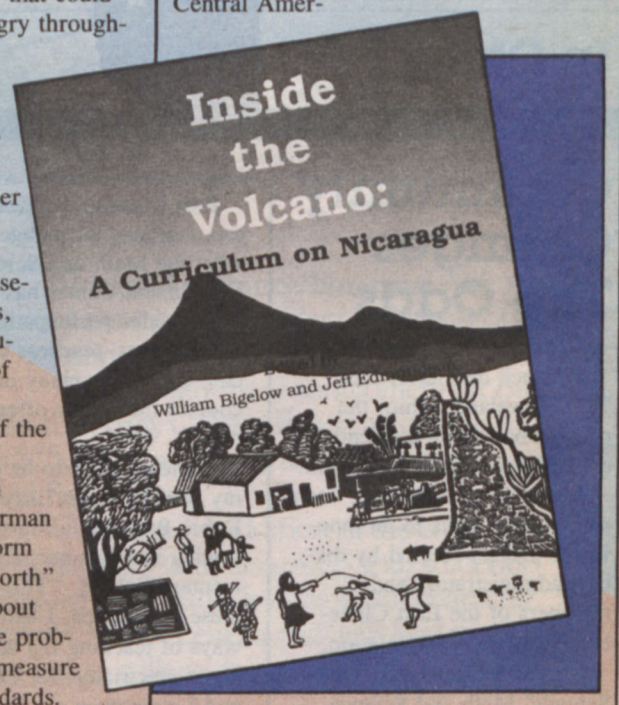
In a lesson on the purposes of U.S. involvement in Nicaragua, students sort through contradictory claims. Former Secretary of State George Shultz says the U.S. is honoring "our commitment to promote economic growth and social justice." Frances Moore Lappe and Joseph Collins of the Institute for Food and Development Policy counter that in Nicaragua, U.S. policymakers see "the threat of a good example" that could "inspire the poor and hungry throughout the world."

Well, which is it? In groups, students become detectives piecing together scraps of evidence—charts, timelines, newspaper clippings—to develop hypotheses.

Textbooks aren't very useful, but through interviews, poems, and stories, my students listen to the voices of Nicaraguans.

They read an allegory of the days before the Sandinista revolution: the Nicaraguan President forbids a weatherman to forecast a freak snowstorm until "our friends in the North" announce it. It's a story about cultural domination and the problems arising when people measure themselves by foreign standards.

The issues raised in a study of Nicaragua are basic: Why is there poverty in the Third World, and what can be done about it? When is it right to rebel? What responsibilities or rights does the United States have toward poor countries? And how does all this affect the lives of our students?



Inside the Volcano: A Curriculum on Nicaragua can be ordered from the Network of Educators' Committees on Central America for $15, including postage. Write: NECCA, P.O. Box 43509, Washington, DC 20010-9509 or call 202-667-2618.

Association member Bill Bigelow teaches at Jefferson High School in Portland, Oregon.

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STUDENT COMMUNITY SERVICE

Lessons in Giving

The chance to change someone's life is a precious responsibility. In more and more schools, community service programs are giving students that chance—along with some very practical advantages.

Today, student community service has a new dimension. Instead of individuals or informal groups volunteering in the community, whole classes are getting involved in service programs, and community service is finding its way into the curriculum.

Beyond the benefits of helping others, community service brings some very practical bonuses. Volunteerism shows students the relationship between what they've learned in the classroom and the world outside. It lets them explore career options. And a record of volunteering gives them a competitive edge when they apply for college admission or for jobs.

It was the relation between school and the world outside that led social studies teacher Dan Conrad to develop his nationally-recognized Community Involvement Program at Hopkins (Minn.) High School.

Conrad's one-semester program is an elective for seniors. For the 125 students who enroll each year, the course includes giving two hours of community service four days a week and meeting for a seminar the fifth day. It also means keeping a daily journal, preparing essays on seminar topics, and analyzing a critical issue related to the service work in a final paper.

"Students need to be skilled in learning from life as well as from books," says Conrad. "And what's learning for, if it can't be applied to alleviate suffering or to solve the problems of real daily life?"

Staff and administrators of Challenger Middle School in Colorado Springs would agree. For three years now, all 1,200 of Challenger's 6th to 8th graders have been required to take part in HUGSS (Helping Us Grow through Service and Smiles), a program of several year-long projects, each led by a two- or four-member teacher team.

Math teacher Linda Wachinski works with a 120-student team called the Funky Flamingos. Like the other teams, it has its own logo and T-shirt design. The Flamingos collect cans and newspapers for recycling and donate the money they earn to needy families. Other teams take pets from the Humane Society on visits to senior citizens or play games with students at a school for the visually and hearing impaired.

In Atlanta, Ga., public high school students have to give 75 hours of community service in order to graduate. Benjamin E. Mays High School counselor Dorothy Swann explains that each school keeps a list of organizations needing help.

"There are several hundred groups—from day-care centers to hospices—and, with special permission, students can also work on other projects," says Swann. "Most kids accumulate more than 75 hours, and many have accumulated more than 400."

Community service seems to become a habit many kids don't want to break. Take those who were in the mandatory service program for all Springfield, Mass., public school students. Last September the program was cut for budget reasons—but many kids wanted to go on giving to the community. For them, Springfield Central High sociology and psychology teacher Roland Miller, who coordinated the program for secondary students, is organizing a community services club.

"Some kids always do community service," explains Miller, "but this program coordinated those efforts. That's what we want to continue."

Just what does the community get out of the students' time and dedication? Dan Conrad explains: "The real story goes beyond dollars and cents; there's a different meaning for every individual. It's one child who can read better, one nursing home resident feeling less alone, an elderly person with a newly painted living room, an autistic child emerging from a shell, a meal served with a smile—these events repeated thousands of times over."

—Diane Dismuke

Larry Salzman

Hopkins (Minn.) nursing home resident Dagmar Tweed talks with student Rob Ingalls.

Larry Salzman

Hopkins High student Anne Geislehart and teacher Dan Conrad visit with nursing home resident Maggie Spinks.

Volunteer Service Hits the Senate

At press time, the National and Community Service Act of 1989, S.1430—a product of the Committee on Labor and Human Resources—was about to reach the Senate floor. The NEA-supported legislation combines various aspects of previous proposals.

Among the bill's provisions:

► Funding for youth service opportunities through school- and community-based programs, for state grants to expand or create youth service corps, and for testing the value of offering education and housing benefits in return for service.

► Expanding several existing volunteer service programs, including increasing the incentive for colleges to use work-study funds for community service placements; reducing student loan debts for VISTA, Peace Corps, and other full-time volunteers; and expanding the community service program administered by the Fund for the Improvement of Postsecondary Education to give more college students the opportunity to serve their communities as part of their studies.

► Encouraging national leaders to advance the ideal of service through a program of Presidential Awards for outstanding people and programs and a comprehensive federal strategy to involve every federal agency and employee in service projects.

—D.D.

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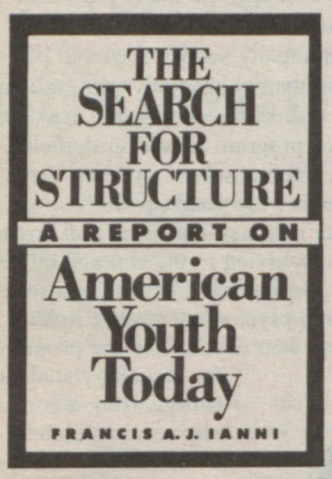

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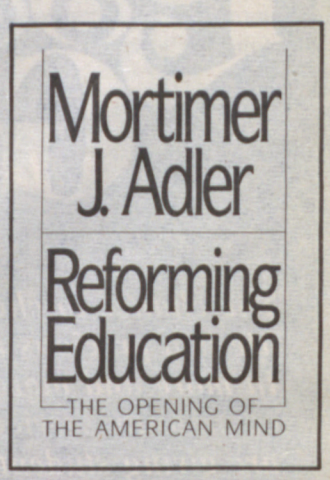

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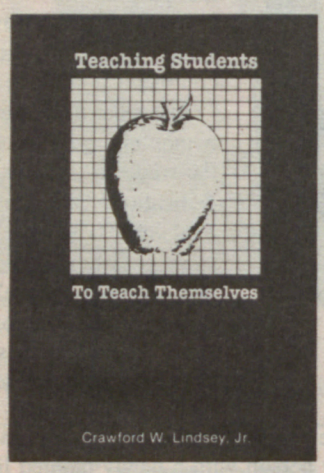

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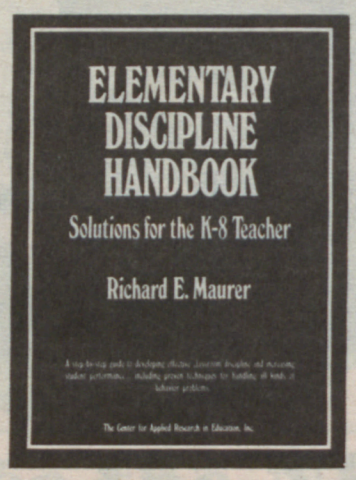

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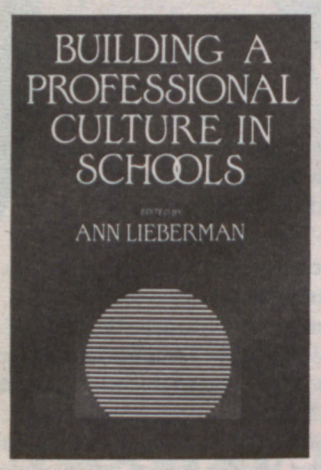

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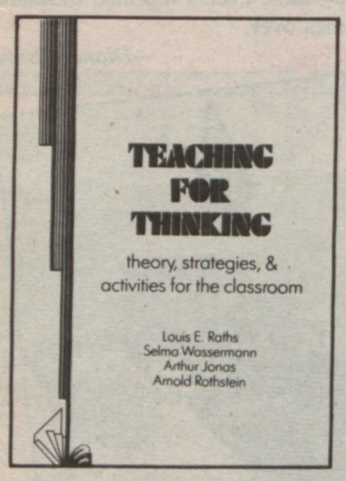

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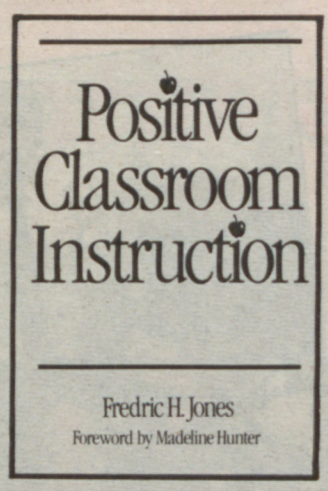

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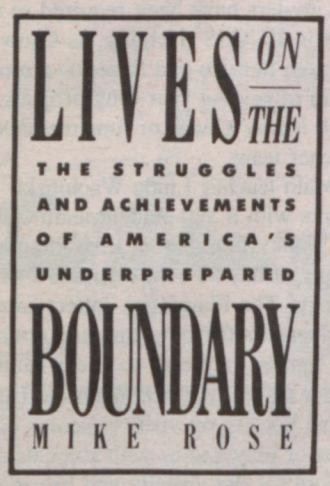

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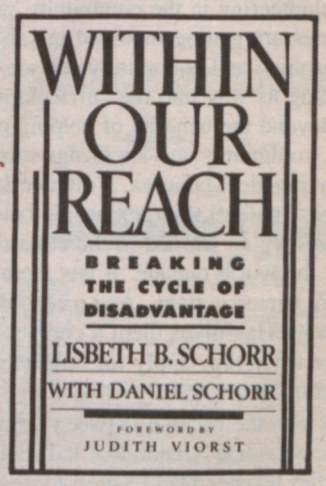

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BOOK BEAT

Are Movies Destroying History?

Suddenly a whole generation of "historical" films is charged with stretching the truth to make a point. How do we keep ourselves—not to mention our students—from getting the past all wrong?

Once upon a time, you could tell the difference between what was real and what was made up in a movie with a historical setting. Atlanta really burned; Scarlett and Rhett were made up.

Now it's harder. Filmmakers mix real people and made-up people, real people and made-up events more and more liberally—and without so much as a note on the screen to tell you the difference.

So truth-in-movie-making has become an issue. Recent historical pictures—*Fat Man and Little Boy*, *Mississippi Burning*, even the Civil War picture *Glory*—have been faulted for inaccuracy by people who lived through or write about the events depicted.

Before we Americans entertain ourselves into ignorance, we need to become a nation of film critics. And we can start with our students.

The relevance of the truth-in-movies question to teaching struck me when I visited the set of *Fat Man and Little Boy* in Durango, Mexico, in late 1988. I was part of a group of social studies supervisors and education writers invited to the set by Paramount Pictures. Paramount wanted input on a curriculum guide and a chance to promote the film.

Fat Man and Little Boy, which stars Paul Newman as Gen. Leslie Groves and Dwight Schultz as Robert Oppenheimer, is about the making of the atomic bomb.

The filmmakers' attention to physical detail was impressive. Director Roland Joffe (*The Killing Fields*) had had the wartime Los Alamos, N. Mex., atomic laboratory reconstructed on a hillside outside Durango; he even trucked in New Mexico red mud.

But what might be called the "biomedical" past was another thing. Cast and crew members readily admitted that the inclusion of two incidents, not widely known to the public, would be controversial.

The incidents involved radiation of human beings. In one, a young Los Alamos physicist called Merriman (played by John Cusack) dies from a radiation accident. In the other, a Los Alamos doctor alleges that "old people are being injected with plutonium" at the Oak Ridge atomic laboratory.

Had these things happened? Sort of—but not to these people. The doctor is completely fictional, and Merriman (a made-up name) is partly fictional and partly a composite of two real scientists who died in separate radiation accidents at Los Alamos—both after the movie's time frame.

In a film that would regard the dropping of the bomb as wrong, was it honest to imply that these incidents—especially the gruesome radiation death—impinged on the scientists' consciousness as they tested the bomb?

I'd have to say no. I read Joffe's sources and other material. In my view the radiation incidents belong in some movie but not this one.

In fact, I'm not sure movies are a good medium for making fresh revelations—which is what the radiation incidents are for most people.

You can't run footnotes across the screen. So the audience can't see the filmmakers' sources, can't judge their credibility.

The box below pulls together books and articles about *Fat Man and Little Boy*, *Mississippi Burning*, and *Glory*. Student critics-in-training can use them to reach their own conclusions about practices that make "historical" films questionable. Here are some more:

- *Made-up events* (the use of seduction and terror as investigative techniques by the FBI in *Mississippi Burning*.)
- *Left-out events* (again in *Mississippi Burning*, the telescoping of events that eliminates the initial capture and jailing of the three civil rights workers).
- *Left-out characters* (the absence from *Glory* of the two sons of Frederick Douglass, who really were volunteers in the 54th Massachusetts, in favor of four fictional black protagonists.)

—Nancy R. Needham

Your Own Film Critic

Mississippi Burning

"Fire This Time," *Time* (cover story), 1/9/89.

Seth Cagin and Philip Dray. *We Are Not Afraid.* Macmillan, 1988. Bantam paper, $5.95.

W.B. Huie. *Three Lives for Mississippi.* WCC, 1965.

Irv Letofsky. "Another Case of Murder in Mississipppi." *Los Angeles Times/Calendar*, 2/4/90.

Florence Mars. *Witness in Philadelphia.* LSU Press, 1977. $9.95.

Fat Man and Little Boy

Richard Bernstein. "Can Movies Teach History?" *New York Times*, 11/26/89, Sec.2.

Clifford T. Honicker. "America's Radiation Victims: The Hidden Files." *New York Times Magazine*, 11/19/89.

Lansing Lamont. *Day of Trinity.* Atheneum, 1965.

American Nuclear Guinea Pigs. Committee on Energy and Commerce, U.S. House of Representatives. 99-NN. 11/86.

Glory

Peter Burchard. *One Gallant Rush.* St. Martin's, 1965. $9.95.

J.T. Glatthaar. *Forged in Battle.* Free Press, 1990. $24.95.

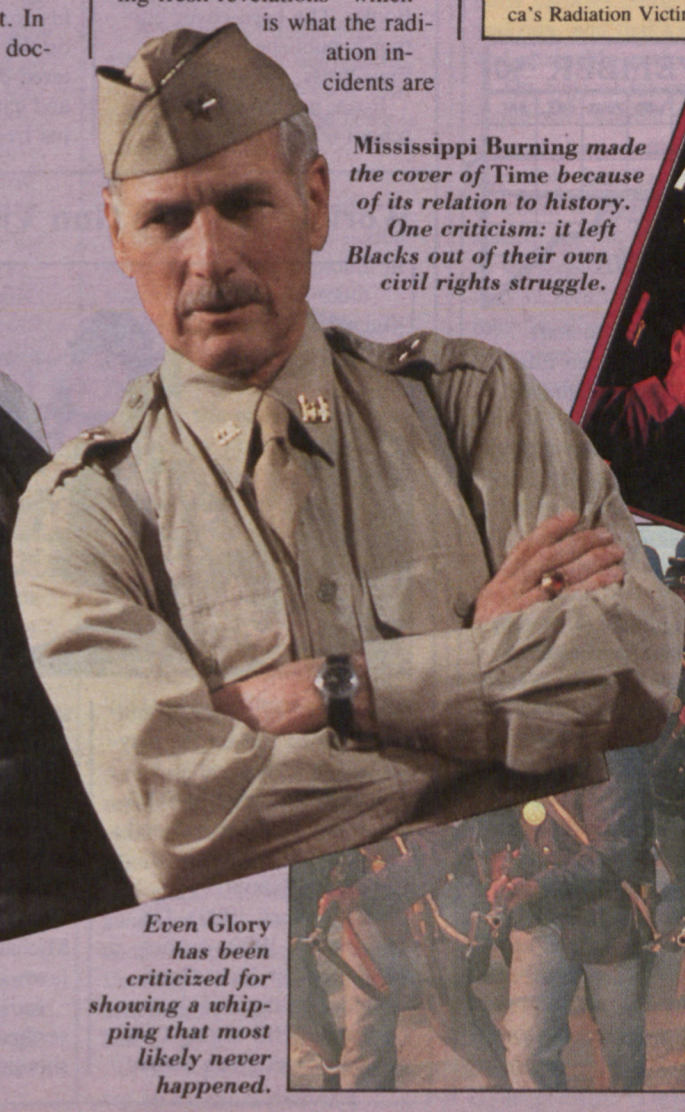
R. Benson and L. Kirstein. *Lay This Laurel.* Eakins Press Foundation, 1973. $35.

J.M. McPherson. "*The 'Glory' Story*," *New Republic*, 1/8&15/90.

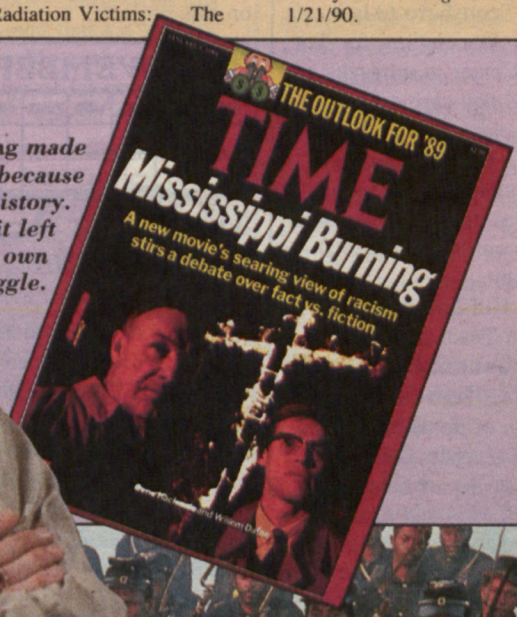
David Nicholson. "What Price 'Glory'?" *Washington Post*, G1, 1/21/90.

Critics of* Fat Man and Little Boy *found '80s sensibilities lurking in the hearts of '40s characters.

Peter Sorel



Mississippi Burning *made the cover of* Time *because of its relation to history. One criticism: it left Blacks out of their own civil rights struggle.*



Even* Glory *has been criticized for showing a whipping that most likely never happened.

Tri-Star Pictures, Inc.

Your NEA

MAKING NEWS

NEA Gives A+ To Nine Projects

When teachers working together design outstanding programs to improve learning, everyone should hear about it. That's the premise of the annual NEA-sponsored A+ Awards program. Now the winners of the second annual contest, held in 1989, have been announced—and they offer plenty of ideas for colleagues to share. The awards went to local Associations in Alabama, Florida, Illinois, Kansas, Kentucky, Montana, New York, Ohio, and Rhode Island.

"This year's A+ Award winners reflect the wide range of approaches that school employees across the country are developing to meet the learning needs of their students more effectively," says NEA President Keith Geiger.

The 1989 A+ Award winners are—

► The Scottsboro (Ala.) Education Association, for Tot 'n' Teen Center, a nursery school and day-care center for four-year-olds. Tot 'n' Teen serves as a training laboratory for students taking parenting skill classes in Scottsboro High School's consumer homemaking program.

► The Hillsborough (Fla.) Classroom Teachers Association, for awarding mini-grants to fund classroom innovations. The grants of up to $500 go to individual teachers, groups of teachers, or departments.

► The Lewis and Clark Faculty Association at Lewis and Clark Community College in Godfrey, Ill., for its Faculty Initiative Program (FIP). Created in 1986, FIP gives faculty a chance to try out ideas for improving the quality of education at the college.

► The Colby (Kansas) Teachers Association, for SPACE: Integrated Curriculum for Grades K-12. SPACE is a product of the school system's efforts to integrate space technology into the curriculum of Colby's elementary, middle, and high schools as a pilot program for the state.

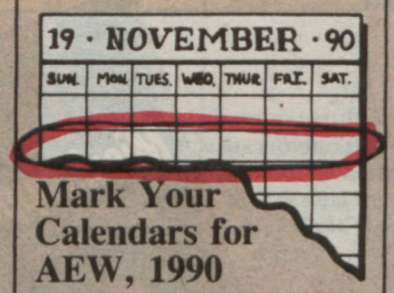
► The Jefferson County (Ky.) Teachers Association, for the Germantown History Project. The Project gives students the chance to sharpen their skills in a wide range of curriculum areas; it also gets parents involved and develops community pride.

► The District Six Education Association (Columbia Falls, Mont.), for "Echoes from the Past." This traveling pageant celebrating Montana's bicentennial teaches students their state's history while helping to hone their fine arts talents.

► The Ithaca (N.Y.) Teachers Association, for Project Co-Operation, a successful effort to integrate opera into the English and music curriculums at two middle schools.

► The East Cleveland (Ohio) Education Association, for the Math and Science Enrichment Center. This unique educational resource is designed to address the underrepresentation of minorities in math and science careers. (See page 21 of this issue for more on this project.)

► The Bristol (R.I.) Education Association, for the Thinking/Learning/Study Skills (TLS) Program. TLS is a school improvement effort designed to promote student success and lifelong learning. (See page 21 of this issue for more on this project.)



Mark Your Calendars for AEW, 1990

It's never too early to start preparing for American Education Week. The 69th annual observance is slated for November 11-17, 1990. NEA and 11 other organizations that cosponsor the Week have selected "Educating Everyone... Takes Everyone" as the nationwide theme.

Over the summer NEA will be sending local Associations the 1990 AEW guide, designed expressly for their use. The guide provides sample news releases and public service announcements, as well as clip art designed for easy reproduction on local AEW materials.

Each November, American Education Week offers an opportunity to renew and expand community support for education. By starting to plan early, you can make sure your 1990 observance is the most successful ever.

LOOKING BACK

Fred Mirlani

From Print to Silver Screen

Among Schoolchildren, Tracy Kidder's best-selling book about Massachusetts teacher and Association member Chris Zajac ("Tough, Can-Do Professionals," Sept.), may show up as a feature production in your local movie theater. Amblin' Productions (owned by Steven Spielberg, creator of *E.T.* and other classics) bought the film rights for $400,000.

The book chronicles a year of Zajac's life. Zajac says the Pulitzer Prize winning author showed up in her fifth grade classroom every day of that year, paying close attention and taking notes.

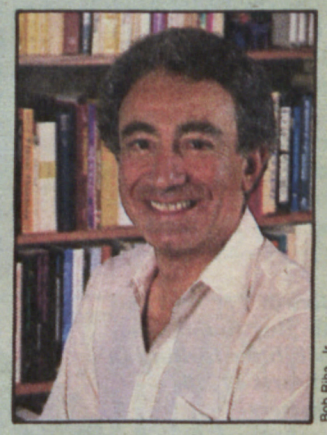
Despite all the media attention the book has brought her, the Holyoke teacher maintains she's not unique—"just an average teacher in a complex profession." No word yet about who will play her role.

From Hardback To Paperback

Lives on the Boundary: The Struggles and Achievements of America's Underprepared by Mike Rose ("Meet Mike Rose, Teacher of the Unsuccessful," Nov.) is now in paperback, from Penguin Books. The hard-cover edition is published by The Free Press.

Rose, a former public school teacher and current associate director of UCLA Writing Programs, has worked for many years with people who were unsuccessful in school.

Lives on the Boundary cites not only what he's learned as a teacher but his experiences as a child of immigrant parents. He spent his first years of high school on the vocational track, entered college on probation, and came close to failing in his freshman year.


Bob Riha, Jr.

Working To Stop Gun Violence

Carolyn Salisbury

On January 17, 1989, a gunman opened fire on the playground of Cleveland Elementary School in Stockton, Calif., killing five and wounding 29 ("Can You Cope with School Violence?" April 1989). On January 17, 1990, Association member Janet Geng, wounded in the assault, was on Capitol Hill urging Congress to enact a ban on assault rifles.

Geng made her plea at a press conference sponsored by the Coalition to Stop Gun Violence. NEA Vice President Bob Chase (pictured above, left, with Geng and Coalition Executive Director Michael Beard) also spoke in favor of the ban.

Earlier Geng vividly described the aftermath of the shootings:

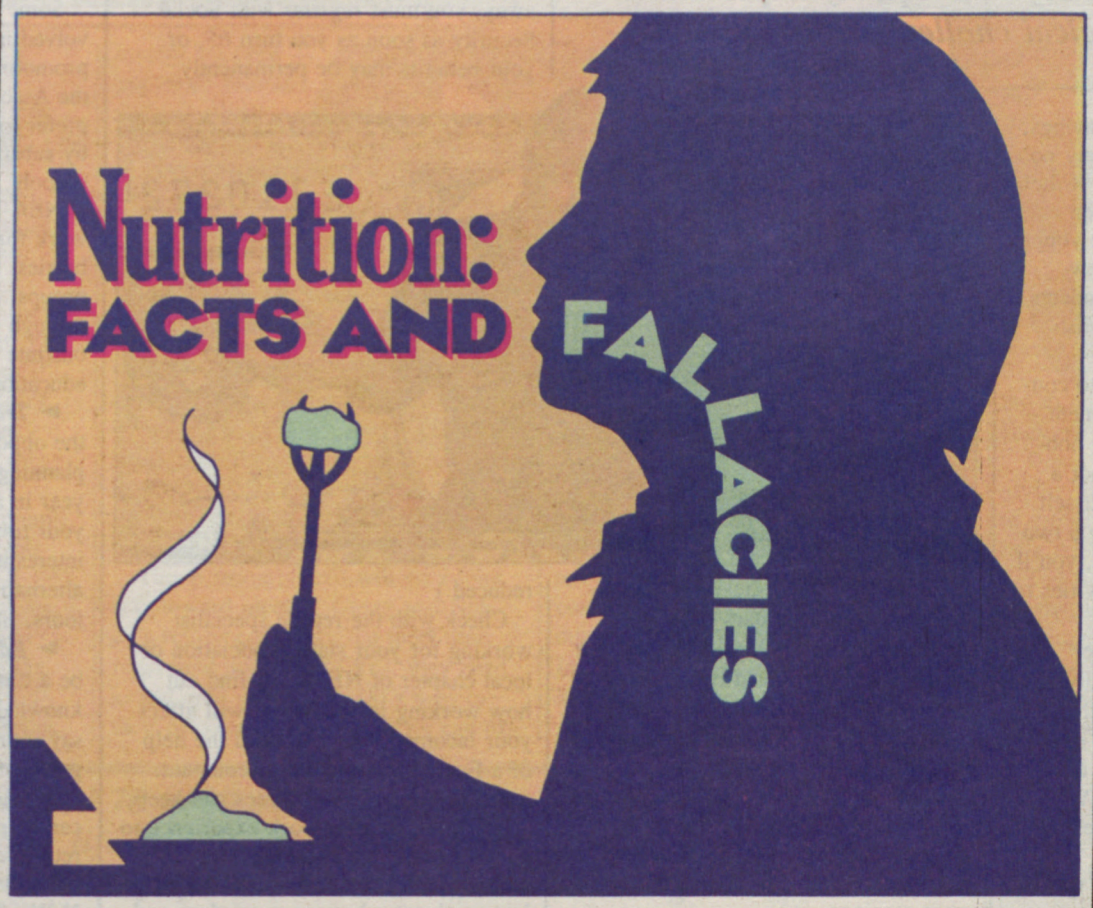
"The school looked like a war zone. Bullets had blasted through the walls and shot up classrooms.... The wall behind me was riddled with 30 bullet holes. We became a school in shock....Many of us still walk in fear...I cannot comfortably be in wide open areas.... Sirens, helicopters, and popping noises still make many of us shudder."

Geng, wounded in the leg, spent 31 days in the hospital and underwent four operations. She now walks with the aid of a cane.

Since the tragedy, the Stockton city council voted unanimously to ban assault weapons locally. Geng hoped to present President Bush with a letter—signed by 59 Cleveland Elementary School teachers—asking him to act quickly to secure a national ban. But White House aides said Bush didn't have time to meet with her.

Health

Information about health factors that affect the way students learn.



Robert Hauck, M.D., has been a practicing pediatrician with the Group Health Cooperative in Seattle for over 20 years. He is a consultant to the Food Marketing Institute in Washington, D.C., where he helped develop a national nutrition education

program soon to be introduced in pediatricians' offices and supermarkets. He is currently a consultant to the American Academy of Pediatrics Committee on Communications.

Is breakfast really the most important meal of the day?
Many of us were brought up to believe that's true. Yet we all know people who prefer not to eat an early-morning meal. It really isn't necessary to eat immediately upon awakening.

Later in the morning, though, most children get hungry and need to eat. So I'd encourage youngsters to eat breakfast—after all, they haven't eaten since the night before—and most school schedules don't give them the chance to eat later on when hunger strikes.

It's important to note that a recent study reported in *The American Journal of Diseases of Children* indicates that school breakfast programs are associated with better school performance.

Do young athletes benefit from eating high levels of protein?
High school athletes, particularly boys who feel they need additional weight for a sport like football, try to "bulk up" with a diet rich in protein. But eating a lot of protein-rich foods like beefsteak and eggs to gain weight is unnecessary: athletes need no more protein than the average child or teenager. The amount of protein in a normal diet is adequate for muscle growth.

On the other hand, it's beneficial for athletes to eat more complex carbohydrates, such as whole grain breads and starchy vegetables, than other youngsters need. Complex carbohydrates provide energy.

Most physicians don't recommend extreme weight gain (or loss) in young athletes. Instead, athletes should make modest changes by combining a balanced diet and an exercise program. Doing so ensures that a gain is mainly in muscle mass, not fat storage, and that those who lose weight are shedding fat, not muscle. It's important to remember that unless increased food consumption is combined with regular exercise, the athlete only stands to gain undesirable fat.

Are "fast foods" bad for teenagers?
Not necessarily. We all know some of the unwise choices teens tend to make: sugared soft drinks, milkshakes, hamburgers, and french fries. As teachers and health professionals, we need to emphasize some of the good choices: fresh fruits, salad bars, low-fat milk, diet sodas (if any), pizza, sandwiches made from chicken or turkey that hasn't been fried in deep fat, ice milk, lowfat yogurt, and cookies low in fat and sugar.

What is "fruit juice abuse"?
Fruit juice is commonly given to younger children in schools as a snack. That's not a wise thing to do. Whether it's sweetened with its own natural sugars or with added sugar, fruit juice is a source of empty calories.

A serving of apple juice isn't nutritionally equivalent to an apple. Nor does it contain any fiber: All the fiber is strained out during processing.

Another problem with drinking a lot of juice is that each sip bathes the mouth in sugar and promotes tooth decay. This is true especially if juice stays on children's teeth all night.

Also, the natural sugars in juices may produce stomachaches and diarrhea. Recent studies show that children who sip fruit juice frequently during the day don't have an appetite for more nutritious foods. I suggest that children eat whole fruit and drink water afterwards to wash away the sugar coating on the teeth.

Are fats harmful? How much fat should be in a child's daily diet?
Many children, and especially teenagers, are becoming more aware of their nutritional needs. Sometimes they're influenced by diet programs proclaiming that all fats are bad.

That's not the case. Fats are an essential part of a healthy diet. Current food guidelines recommend that about 30 percent of a person's daily calories come from fats and oils, and that's a healthy and attainable goal.

The type of fat you eat is important. Animal fats are, in general, less healthful than vegetable fats. Tropical oils (coconut and palm oil, for instance) are the least desirable of the vegetable fats because they're *saturated*—that is, they usually harden at room temperature.

Saturated fats are found in animal products and in some vegetable products. People should eat as little of them as possible in relation to other fats. That will make for a healthier balance of blood fats and a lower risk of heart problems.

Saturated fats have been commonly used in packaged foods because they're inexpensive and give foods a longer shelf life. But now the food industry has taken note of the public's growing awareness of this issue: we're seeing advertisements and labels boasting that a certain product contains no tropical oils or animal fat.

What are *hydrogenated* or *partially hydrogenated* fats?
Hydrogenation is a process that chemically changes oils from liquids to solids—and in the process changes them to saturated fats, which can cause heart problems. Most oils in prepared products are at least partially hydrogenated because hydrogenated oils don't spoil easily. Products containing them have a longer shelf life.

Hydrogenation also improves the texture of certain foods. Pie crust made with hydrogenated shortening has a flakier texture than crust made with a healthier, nonhydrogenated oil. And by hydrogenating the oil in peanut butter, manufacturers keep the oil and peanuts from separating in the jar. The product looks better—but it's less healthful than untreated peanut butter.

What should educators teach students about reading food labels?
When looking at food labels in grocery stores, be aware that ingredients are listed in descending order by percentage of total weight—the higher up on the list an ingredient is, the greater its contribution to the weight of the food.

You might be surprised at how high on the list corn syrup, sugar, and salt are in a lot of prepared products, such as tomato ketchups. Other products list fats high among their ingredients. Oil and butter, for example, are often major components of pastry products. Foods like potato chips, french fries, and hamburgers also contain too much fat to be healthful.

What can teachers do to help their students develop better nutrition?
They can talk about nutrition and include lessons on how to interpret food labels. When the class has treats or a party, teachers can set an example by including nutritious food choices. Oatmeal-raisin cookies are a healthy substitute for high-fat cookies.

Teach students to adapt recipes by using higher-quality ingredients, and provide healthy foods like fruits and vegetables as snacks. Instead of hamburgers and fries, serve pizza made with low-fat cheese (mozzarella, for example). It's nutritionally balanced and has fewer calories than pizza made with high-fat cheeses. Try to avoid cheddar cheese, which contains a lot of fat.

YOU AND YOUR RETIREMENT

After Retirement, What?

When most people plan for their retirement, their greatest concern is money. But equally important is retirement's psychological challenge.

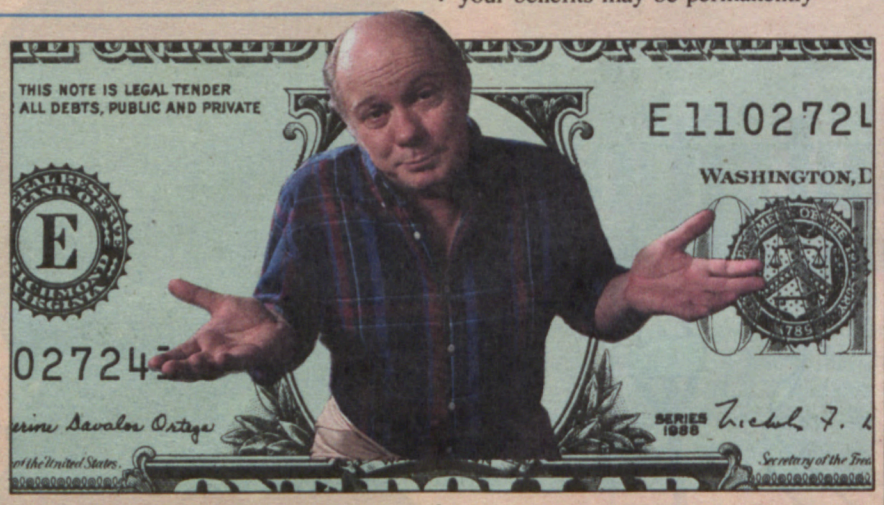
Many retirees have ample savings, experts note—and absolutely no idea of what to do with the rest of their lives. As you near retirement, you should have a clear idea of what you want to accomplish with your new-found time, just as successful students know what they want to accomplish with their educations.

Some things you might want to consider when planning your retirement—

► ***Hobbies.*** Most of us enjoy hobbies as a break from our jobs, not a replacement. Try immersing yourself in your particular interest during a two-week vacation. If you get bored, you'll probably need to find other activities to keep your retirement interesting.

► ***Work.*** Continued work after retirement is often both financially and emotionally necessary. You might work part-time for your current employer, find a new employer or field, or even become self-employed. With a pension you can try career moves too risky to consider earlier in life.

Do your research on possible new careers now. Read books, talk to people, attend the small business and career evaluation seminars offered by many community colleges. If there's a local self-help group of older business people, consider joining.



Whatever your job strategy, keep in mind that people under 70 need to carefully consider how working would affect their total income. Taxes and work-related expenses, for example, can take a bite out of your postretirement earnings.

In addition, Social Security and some pension plan benefits may be reduced if you earn outside income. If your post-retirement income is high enough, it may pay over the long run to postpone filing for benefits. (But remember: even if you don't file for benefits right away, you must *register* with Social Security as soon as you turn 65, or your benefits may be permanently reduced.)

Check with the retiree specialist working for your state Association or local chapter of NEA-R to find out how working in retirement will affect your income. You may need the help of a financial planner or accountant.

► ***Volunteerism.*** Retirees can keep active and use their work experience to help others by volunteering their services. See if your local NEA-R affiliate knows places where your wisdom and skills are needed. In fact, one of the most important benefits NEA-Retired offers its members is an outlet for their energy and dedication. People who've had fulfilling careers are seldom content to vegetate just because they've retired.

Some NEA-R members stay involved in Association activities by promoting membership and supporting the Association's political goals. Others prefer to maintain their education ties by substituting, volunteering in the schools, tutoring, or mentoring.

NEA-R also encourages members to work for political parties, museums, libraries, and community and religious groups. You have a lot to offer—and through volunteering, you also demonstrate the importance of public education to the entire community.

► ***Travel.*** Retirement often means the opportunity to see the world. Start planning your itinerary as much as a year in advance to make the most of your time and money. Consider more interesting—even specially designed—alternatives to conventional travel and tours, like Elderhostel and Earthwatch.

► ***Education.*** Retirement can also be a time of continuing your search for knowledge. Many college instructors say retirees bring the classroom a perspective that young students lack.

Whatever you plan, NEA-Retired can help you make the most of your retirement years. To see how, write to Vade Bolton, NEA-R, 1201 16th St., N.W., Washington, DC 20036.

RESEARCH CLUES

To Improve Kids' Writing, Make the Topics Real

By Robert McNergney and Martin Haberman

The old stereotype of the writing assignment—"How I Spent My Summer Vacation"—remains more fact than fiction. In a sense, that's why some students pass through their entire school careers without ever coming to understand that writing is sharing ideas with themselves and with others.

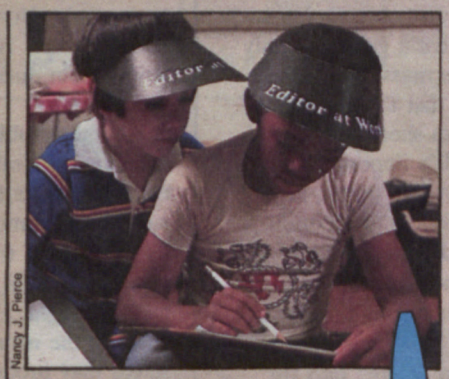
In real life we write to communicate, not to be judged; we also choose to whom we write and why. But in many cases students write only for their teachers, and primarily for evaluative purposes—to get a grade. Typically, school writing assignments err by requiring students to treat topics they haven't selected but are presumed to know something about. Even worse, they require students to write for an unspecified general audience—which, in fact, is the teacher.

School writing, in short, is decontextualized. But recent studies have shown that students not only learn more but transfer more of this learning to out-of-school uses when the learning is contextualized—when what's learned in school comes in the same forms that are used outside of school. We can only write appropriately for a specific audience and for a specific reason, never simply "our best" without a context.

Evidence suggests that starting at about age four, children begin to speak differently to different audiences. Later they make similar adjustments in the way they write—according to some studies, as early as fifth grade. This means that many elementary students are already targeting their writing.

In one recent study, researchers in California and Israel compared the ways seventh graders wrote for different audiences and purposes. In one assignment students were directed to write for their teachers to demonstrate their skills. In a second assignment they wrote to peers to communicate about themselves and their cultures.

Independent raters judged the writing on five criteria: content, organization, vocabulary, language use, and mechanics. They gave each piece a numerical grade. The writing to real peers scored higher on all five criteria than the writing done for teachers.



Nancy J. Pierce

Many writing teachers steadfastly maintain that students won't write well if their work isn't going to be graded. In this study, however, independent raters applying strict criteria found that students wrote better for non-judgmental peers than for teachers. Could this mean that grading isn't such a significant instructional issue after all?

The results of this study argue forcefully that students write more effectively when they have a specific, authentic audience and a clear purpose for communicating with this audience. Knowing there will be an answer to their communication is another factor that may turn a writing assignment into live communication rather than mere schoolwork.

Many teachers have already discovered these principles but end up glossing over the situation rather than deal with it. They tell their students, "Pretend you are *X* writing to *Y* with *Z* purpose.". But this kind of assignment still makes writing a hypothetical exercise. It doesn't change the way students will approach the writing. Students benefit most from having real reasons to write to real people.

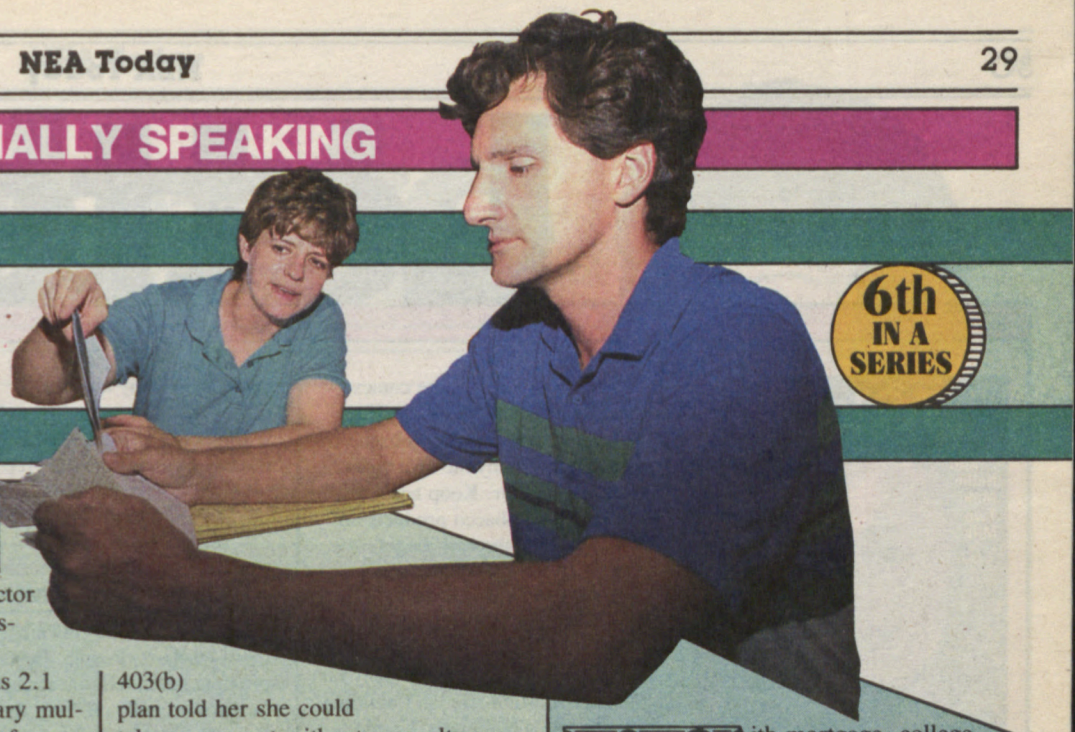
For more information, see M. Cohen and M. Riel, "The Effect of Distant Audiences on Students' Writing." *American Educational Research Journal*, vol. 26, No. 2, Summer 1989. pp. 143-59.

Robert McNergney is a professor of education and director of the Commonwealth Center for the Education of Teachers, University of Virginia and James Madison University, Charlottesville, VA 22903. Martin Haberman is a professor at the School of Education, University of Wisconsin-Milwaukee, Milwaukee, WI 53201. They prepared this column for NEA Today *with the cooperation of the American Educational Research Association.*

PERSONALLY SPEAKING

PLAN NOW RETIRE LATER

6th IN A SERIES



Both in their early 30s, Gregg and Nancy Montgomery have been teaching for a decade. Like most teachers, they find their jobs alternately satisfying and frustrating. "We wouldn't do it if we didn't think we were doing some good," Nancy says.

But both Montgomerys realize they may not want to teach for another 30 years—and once they turn 52, they'll be eligible for retirement. "We don't know if we'll want to do it," Nancy says. "But we're interested in having that option."

The Montgomerys, a teaching couple from Holden, Mo., are spending this school year sorting through their finances—updating insurance coverages, working out new balance sheets and cash flow statements, doing some tax planning, and looking at future financial needs. Why not work through this month's retirement scenario with the Montgomerys?

Gregg, 33, and Nancy, 32, are careful spenders. They're debt free. And they're extremely conscientious about tucking money away for the big financial demands of life—college for Evan, 7, and Erin, 2, and retirement for themselves. Still, they haven't really thought out how much it would take to retire early.

They can start with a rule of thumb: you'll need 70 to 80 percent of your salary to maintain your lifestyle in retirement. That's because retirees generally spend less on things like clothing and housing, but more on medical care.

You'll need 70 to 80 percent of your salary to maintain your lifestyle in retirement. That's because retirees generally spend less on things like clothing and housing, but more on medical care.

The Montgomerys currently make about $54,000 a year, so if they retired tomorrow, they'd need about $37,500 a year to live comfortably. Let's say they want to retire when Gregg's 55. How much money will they need in the year 2012?

To find out, they need to consider the effect of inflation. If inflation runs at about 4 percent a year from now until 2012, they'll need an annual income of $88,872 to maintain their lifestyle.

That's certainly a sobering thought. Where would this money come from? If the Montgomerys had to rely entirely on their savings, they'd need to have $1.1 million, invested at 8 percent, by the time they retired.

Fortunately, Gregg and Nancy don't need to come up with all the money themselves. They're not covered by Social Security because Missouri is one of 13 states where teachers voted not to join the Social Security system. But these states have their own teacher retirement systems—and the Missouri system has been improved substantially in recent years, says E. C. Walker, director of government relations for Missouri NEA.

The current benefit formula is 2.1 percent of the final average salary multiplied by the number of years of service. Walker calculates that if the Montgomerys work for another 22 years, until Gregg is 55, with annual raises of 4 percent, each of them might be earning around $56,000 a year. That would give them each annual retirement benefits of $38,304, or a total of $76,608. The system also has a cost-of-living adjustment.

This pension benefit will go a long way toward meeting Gregg and Nancy's retirement needs. To meet their retirement goal of $88,872, they need to add only about $12,000 a year to their pension income, and they can expect to earn that much income from an investment of about $150,000.

(Missouri NEA's Walker does point out, however, that, like other Missouri teachers, the Montgomerys won't be covered by Medicare. They must plan their retirement budget to include private medical insurance.)

Gregg and Nancy have already taken some steps to save for retirement. For example, each has a cash value life insurance policy that will be worth nearly $100,000 when they're 65. And Nancy has a 403(b) tax-deferred annuity plan (see box) at school. She started it last fall when her school district gave her the option of dropping her health coverage (she's covered by Gregg's plan) and putting the $81.90 monthly premium into a 403(b) plan.

Nancy invested her 403(b) money in a variable annuity, a type of tax-deferred retirement plan that allows her to choose from a variety of different investments. She and Gregg, who consider themselves extremely conservative in financial matters, decided in this case to go for broke. They picked the highest-risk option available—an aggressive growth fund. "We figured this is unexpected money and we might as well be aggressive with it," Nancy says.

Then, as Gregg and Nancy mulled over their finances this winter, they decided to put away some extra money for the children's college costs. The insurance agent who sold Nancy her 403(b) plan told her she could take money out without a penalty after eight years, so she and Gregg decided to put $50 a month of their own money into the plan starting this January.

They planned to start using this fund for college tuition in 10 years. But here they ran into a snag. There's something the insurance agent didn't tell Nancy. It's true that the insurance company will allow withdrawals without penalty after eight years—but the Internal Revenue Service has rules of its own that govern 403(b) annuity plans. The money in these accounts is intended for retirement, and there are severe penalties for withdrawing it before reaching age 59½.

So Gregg and Nancy have to look elsewhere for a college savings vehicle. They've also learned to take a salesman's words with a grain of salt and find out for themselves just what regulations will affect their potential investments.

Even though 403(b) plans may not be ideal for college savings, it is possible in some cases to borrow money from the plans. The rules differ from school district to school district.

And even though the Montgomerys can't withdraw anything from Nancy's 403(b) plan in time for the children's college, putting extra money every month into a 403(b) plan would be a good way for them to prepare for early retirement.

That's because the money contributed to these plans is pre-tax money. In other words, if you earn $25,000 a year and you contribute $1,000 to a 403(b) plan, the income you report on your income tax form is reduced to $24,000. The money also grows without a bite for taxes until you withdraw it at retirement. This helps your money grow much faster.

There are three broad investment options for 403(b) annuities: fixed rate investments, variable rate investments, and mutual funds. Each has its own advantages and disadvantages.

But since Nancy's 403(b) isn't an option for college savings, next month the Montgomerys will take another look at possible investments for the children's college costs.

—Mary Rowland

With mortgage, college tuition, and daily bills tugging at your paycheck, it's tempting to put retirement planning on the back burner.

Don't do it. The earlier you start saving, the more time your money has to grow. Even if you can put away only a little at a time, get started!

The first thing to do is to take a look at what income you might expect in retirement. Teachers in most states are covered by the Social Security system. Most teachers also have some type of retirement system either in lieu of or in addition to Social Security.

Find out how much, if anything, you can expect from Social Security—and check to make sure you're getting credit for your earnings. To do this, call (toll-free) 800-234-5772 and ask for a form to request your personal earnings and estimated benefits. Fill it out and send it in. It's important to do this once every three years because if Social Security makes a mistake, you have only three years to correct it.

Next, find out what income you can expect from your retirement system. If you don't receive annual estimates, find out who in your school district can give you the benefit estimates.

Don't stop there. Even if you expect to receive a generous combination of benefits from Social Security and your state pension, it won't be enough for a comfortable retirement. You need to take some steps to put some money away on your own. The best way to do that is to use a tax-advantaged plan. And the best plan available for public employees is the 403(b) annuity.

These plans give you two tax advantages. First, they let you subtract your annual contribution from your taxable income, saving you money on this year's taxes. Second, your money grows tax free until you withdraw it at retirement.

This makes an important difference in how much money you'll have. Consider this: A $10,000 investment, earning a 9 percent annual return, will grow to $86,231 in 25 years in a tax deferred account. Taxed at 33 percent a year, the same investment will reach only $43,223 after 25 years.

For more information on tax-deferred annuities, ask for copies of the NEA Special Services Consumer Guide on this topic.

—M.R.

Letters

Lost Continents

On page 29 of the last issue, you tell us that "we're lost" because we don't know geography (Trends, Feb.). You cite a National Geographic Society poll, which found that the average U.S. adult could give the right answer to "map questions" only half the time. Worse than that, you add that 14 percent of us can't even find our own country on a world map.

Maybe the problem is in the maps or in our educational publications. In the centerfold of the same issue, you printed a NASA satellite photo of the world backwards, showing the east coast of Africa on the west, with the Arabian peninsula northwest of that and Madagascar (or the Malagasy Republic), like the lost continent of Atlantis, out in the middle of a presumed Atlantic Ocean.

If educational magazines are satisfied with pictures that look pretty much like the world from outer space, even if they have it backwards, why should we expect greater precision from the general population?

Peter Salmon
Henryville, Pennsylvania

P.S. Or maybe the photo is a clever test on your part, to see if your readers are paying attention to geography and to your generally good publication. If so, count me in in both ways.

Consider the Source

Maybe Louis Gerstner's quote about the Noah principle—"No more prizes for predicting rain. Prizes only for building arks"—is "well put" (Feb.). But he and the members of NEA are not in the same boat and don't bring the same values to ark building.

CEO Gerstner's company, RJR Nabisco, was awarded a $5 billion tax subsidy for its recent leveraged buyout and continues to make hefty profits by doing business in South Africa and pushing expensive, chemical-laden tobacco products on the Third World.

Please consider the source before you print a quote.

Mary Alice Herbert
Putney, Vermont

Your "Well Put!" quote comes from a hypocrite. How can Mr. Gerstner, the CEO of a tobacco company, tell anyone about ark building? As Dr. Koop has pointed out, tobacco products do more damage than all illegal drugs. If Mr. Gerstner really believed his own words, he would spend no money on tobacco advertising, quit making cigarettes, and spend lots of money on health education. He isn't building an ark. He's building a Titanic for the health of the world.

David Triche
Beverly Hills, California

Responsible Parents

School reform in Glenview, Ill. ("We the Teachers, In Pursuit of Professionalism," Feb.), appears to have achieved excellent relationships among board members, administrators, teachers, and parents and an outstanding commitment to Glenview's children.

But I get tired of reading about how mission-conscious teachers with masters degrees are going to save our nation's schools and youth.

What will save our schools and youth is this: loving, caring parents who cheerfully meet their children's needs. *All* their basic needs (for food, clothing, clean shelter, proper rest, good health habits).

Plus parents who provide ongoing nurturing by listening and explaining—and by encouraging and enjoying their children. Such parents give teachers wonderful human beings who enter the classroom ready to learn. Parents are a child's most influential teachers—not that adult in the classroom.

Parents who do their job from their child's conception to young adulthood will do more to improve schools than any amount of money, written commitment by teachers—or increased number of teachers with masters degrees.

Russell Fimbinger
Marion, Michigan

Education Families

Your article on the Hawaiian family of teachers (People, Feb.) prompts me to tell you about my husband's family. He, his four sisters, all five spouses, two aunts and their husbands, and one niece all are (or were) teachers.

All but the niece teach or taught in Georgia and have attained at least one advanced degree. All this has been accomplished despite the fact that the family started out as Black farmers in rural Georgia.

I am very proud of what all 14 of them have accomplished and contributed to the young people of this state.

Marilyn P. Robinson
Stockbridge, Georgia

China Revisited

In a recent article you state, "Jan Rushton flew into Beijing—and into history in the making" (People, Dec.). Just flew right in and saw fit to make a pronouncement, "We support your cause." Without even going there, President Bush said exactly the same thing last summer.

I was in China for eight months of 1987—and I spoke Chinese. This is *my* pronouncement: a country with one-fifth of China's population can have very little understanding of the situation there. What we can say, and should have said, is, "We are sympathetic with you as fellow human beings, but we have no understanding of the nature of the problem."

To make it very clear to all of you teachers out there, I'll present this analogy. If you have 75 children in your classroom this year, how much democratic process will you allow? When I had 37 in my class one year, control was much tighter than when I had 20.

In the past 75 years, China advanced, in quality of life, from Europe's 900 A.D. to about 1900 A.D., a jump of a thousand years. So, sure, they are behind. The opening to the West, was, in my opinion, a good move toward closing the gap and bringing them what they want and need.

But part of the opening to the West was massive exposure to Western tourists, journalists, and printed matter. No wonder the young became dazzled and dazed by such evidences of "freedom."

But why did they prolong their stand, even after the government officials expressed a willingness to talk to them? Because of people like Jan Rushton and President Bush, all those journalists, foreign (U.S.) students, and tourists, too.

These people infected the students to a heady point, where what they now wanted was *capitulation*. I do want to say that the President showed commendable moderation and restraint (after his initial gaffe) in advising no sanctions, in saying that only China could take care of the problem.

Beatrice Richmond
Camp Verde, Arizona

Nothing New

The article "Retention Holds Kids Back" (Research Clues, Nov.), presents one point of view on a hotly debated issue—early retention of the bright but immature student. The article reveals nothing new.

What is shocking is that this publication, supposedly the mouthpiece of the NEA, would ignore the writing and research done by those who have successfully implemented early retention for the bright but immature child. May I suggest you contact Dr. Anthony Coletta at William Paterson College in Wayne, N.J., James Grant in Peterborough, N.H., and Louise Bates Ames at the Gesell Institute in New Haven, Conn.? Perhaps these people will publish an article that will retain members like myself who are considering withdrawing from this organization.

Linda Sharkey
Mountainside, New Jersey

Attention Deficit

We are parents of a 10-year-old A.D.D. child who takes Ritalin ("The Ritalin Controversy," Sept.).

We are glad that A.D.D. is being brought to the attention of teachers, especially since it does affect 5-10 percent of children. We are finding that many teachers are not aware that such a condition exists, and many who have at least heard of A.D.D. have had little or no training in how to teach and manage these children.

The Florida-based support group CH.A.D.D. (Children with Attention Deficit Disorders, 1859 N. Pine Island Rd., Suite 185, Plantation, FL 33322, 1-305-792-8100 or 1-305-384-6869) puts out an excellent teachers guide, which contains some very good suggestions for teachers, along with general information on A.D.D.

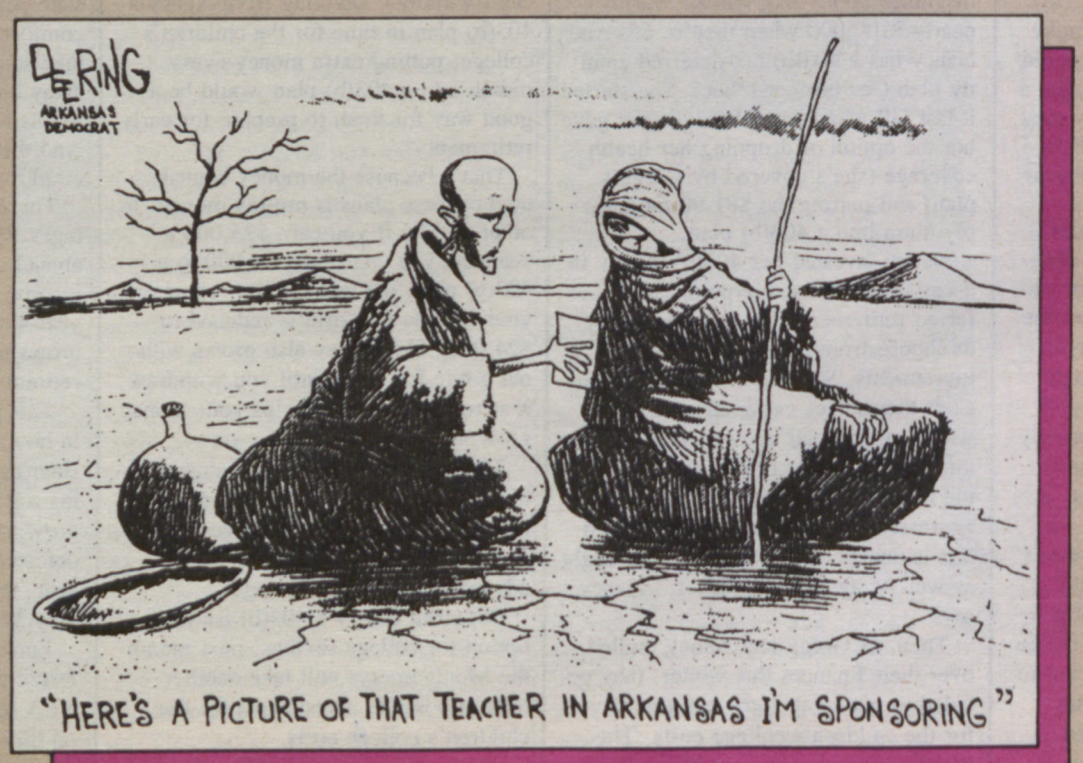
Gordon and *Dale Emery*
Reedsburg, Wisconsin

Neglected Topic

Upon receiving my copy of *NEA Today* last month, I read it from cover to cover. Unfortunately, I was once again disappointed that I did not find any articles about early childhood special education.

I would like to invite one of your staff writers to visit our program, which is administered through the Olympia School District. Olympia has been serving children from birth to age six since 1972. We have a variety of service models that I think your readers would enjoy learning about, and such an article would also help educate readers about how schools are becoming more and more involved in the education of young handicapped children.

Nancy Reid
Olympia, Washington



This month's cartoon has moved off the pages of the *Arkansas Democrat* onto T-shirts worn by Arkansas Education Association members and friends around the state.

Debate

YES

Should Schools Abolish Remedial Education?

NO

Ken Tyler

Byron King, a former junior high mathematics teacher, is now a resource teacher for San Diego's integration programs. A 10-year teaching veteran, he's part of the team planning a new middle school that will offer a single enriched curriculum to all students.

Frances York is the director of curriculum for Orangeburg, S.C., School District Five. She also coordinates the district's incentive programs for teachers and principals. A former teacher, York's been an NEA member for 23 years.

The debate over remedial courses is not about whether students performing below grade level need some form of specialized help—of course they do. The debate is about which type of instructional program will be most useful to such students.

Conceptualizing the problem as one of remediation offers little hope for students' educational futures. But solutions that rest on high expectations, that instill self-esteem, and that provide enrichment can—and do—work.

The intent of remedial courses is to provide students identified as performing below grade level with the opportunity to "get up to speed" academically so they can re-enter the educational mainstream at grade level. But that approach doesn't work. Research shows that very few students placed in remedial courses ever move beyond them.

Having taught and observed remedial classes, I can see several reasons for this failure. First, students often end up in remedial classes for the wrong reasons. More than half are there because of perceived "attitude" problems, not poor computational skills. These kids are turned off to school; they've got bad attendance records. And many remedial classes are disproportionately made up of minority students.

Second, the limited content and teaching techniques common in remedial courses prevent students from developing their academic skills. When a student in any type of class says those dreaded words, "I don't understand," the teacher may respond by repeating the original explanation, only s-l-o-w-e-r and LOUDER. Remedial courses institutionalize that "slower and louder" teaching strategy. They're based on continual repetition of whatever's considered basic in the content area.

In remedial reading instruction, for example, students seldom examine a whole story or novel, although that's what good readers do. But how can they become good readers if they never do what good readers do?

Finally, remedial courses foster a climate of despair that convinces students they're not fit for grade-level classes. Despite the efforts of well-intentioned teachers, students in remedial classes soon begin expecting to fail.

Here in San Diego, we have alternatives to pull-out remedial programs—alternatives that are showing great promise. The San Diego Unified School District is implementing a common core curriculum. Certain remedial courses in mathematics and science are being phased out, so course requirements for high school graduation are becoming more challenging.

Instead of tracking underachieving students into traditional remedial drill-and-practice studies, we expect all students to learn to apply critical thinking skills. Preliminary study results indicate that neither the number of *F* grades nor the dropout rate has increased significantly in the schools trying out the new requirements.

Another fine example of alternative remedial education is the San Diego Math Enrichment Program. Coordinated through San Diego State University, the program recruits Black and Hispanic second and third graders to participate in afterschool mathematics activities. It reinforces basic skills through enriched instruction in solving problems and using manipulatives, rather than the traditional remedial approach of emphasizing drill and practice.

A third example, Achievement Via Individual Determination (AVID), was developed by San Diego high school teacher and Association member Mary Catherine Swanson. AVID moves unmotivated students with potential into a traditional college prep course of study. Highly successful, it has expanded to junior and senior high schools throughout the county.

The task of providing all students a quality education is a difficult one. Yet to undertake anything less is a grave disservice to our profession and to our students. Remediation, like incarceration, retards growth and development. Let's expand the goals of our students by offering them more, instead of giving them less.

Anyone who believes in education for all has to endorse remedial programs.

In our district, we think of remediation as providing a supplement for students who start out behind or fall behind. Students who don't meet the standards on statewide tests in reading, writing, or math receive an hour of additional instruction each day in the area in which they're deficient. The extra 180 hours a year of remediation has contributed significantly to gains in student achievement.

In 1974, only 14 percent of the fourth graders in our school district scored at or above the 50th percentile as measured by the Comprehensive Tests of Basic Skills. In 1989, 59 percent reached that score or above.

In 1974, the dropout rate in our district was 40 percent; in 1988, only 2 percent. I attribute this dramatic reduction to the entire community's commitment to student achievement and to this simple fact: Remedial programs work.

In our district, remedial programs succeed, in large part, because—

- ► There's a lower teacher-pupil ratio (usually 12 to 1) in remedial classes than in regular classes. That means teachers in remedial programs can get to know their students better, provide individual attention, and tailor lessons to each student's learning style.
- ► The teachers in the remedial programs take a diagnostic-prescriptive approach to remediation.
- ► In remedial classes, time on task is extended to fit the student's needs.
- ► A team of regular and remedial teachers meets regularly to review students' progress and plan strategies to meet identified needs.

Remedial programs have advantages beyond the impressive statistical increases in student achievement.

For one thing, they foster collaborative and collegial learning among students and planning among teachers. The classroom environment encourages cooperative learning as students pair up and work in teams. It also serves as a laboratory for cognitive development: Students use reasoning skills to make classroom decisions while teachers facilitate learning.

Remedial programs have also been highly successful in establishing a partnership between the community, the home, and the school. Our community actually initiated the use of computerized remedial instruction by purchasing the first 10 computers. (We bought 140 more after we realized what they could do for our classrooms.)

Remedial programs include organized efforts to involve parents in the classroom, where they can help make decisions and recommend ways to improve academic achievement. During the 1988-89 school year, more than 300 parents from our school came forward to serve as advisory committee members and classroom volunteers. They've worked wonders in tutoring one-on-one and helping out with clerical work. And with community volunteers, we're better able to monitor individual student progress daily and adjust the curriculum as needed.

Lastly, remedial programs increase students' self-esteem. While students are well aware of their academic deficiencies, the environment in remedial classes fosters a feeling of "I am somebody," "I can achieve," "I can change the world." Many students experience success and feel good about themselves for the first time when they participate in remedial programs.

To meet the needs of "at risk" students, the schools need to use alternative strategies. When youngsters are experiencing success, when they feel good about the learning process, their achievement and attendance go up.

We must have caring teachers who can motivate, inspire, and set high expectations in a learning environment that's accepting, challenging, inviting, and nonthreatening. We must have many opportunities for students to be involved in the learning process.

Remedial programs provide all these benefits, so let's not abolish them. Let's continue to provide experiences and opportunities that maximize the learning and develop the human potential of all students.

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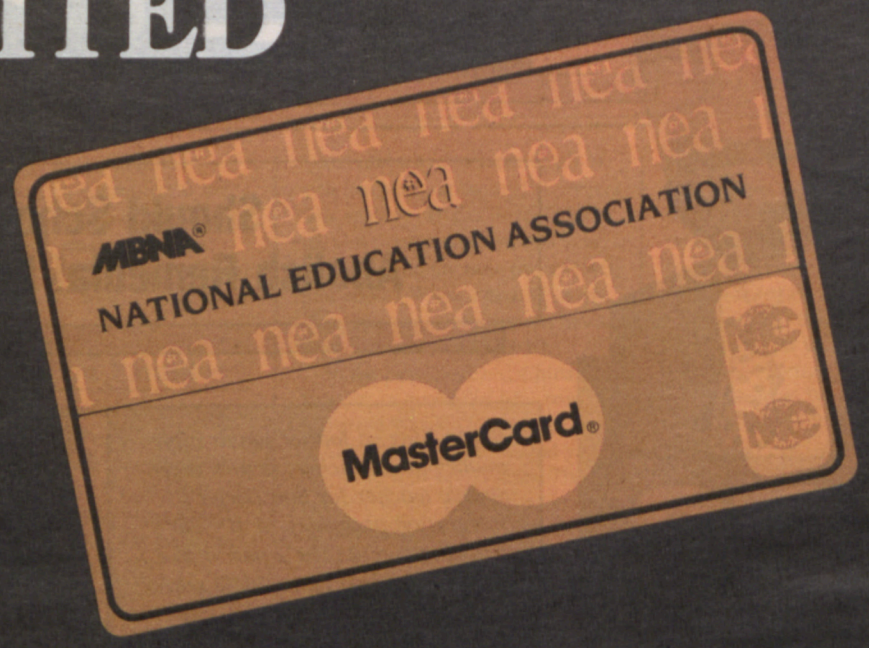

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Employer		
Position	Years There	
Previous Employer or School Attended		
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